THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D.C. 20201

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FEB 5 1985

The Honorable George Bush
President of the Senate
Washington, D.C. 20510

Dear Mr. President:

I am pleased to submit the enclosed Report to Congress, "Evaluation of the Rural Hospital Swing-Bed Program." This evaluation was mandated by the Omnibus Reconciliation Act of 1980 (P.L. 96-499). This report constitutes the first and principal evaluation of the swing-bed program. A second component of the evaluation addresses the impact of the hospital prospective payment system (PPS) on the swing-bed program. This second component was added after the enactment of the PPS program and is still in progress. The findings and recommendations from the second component will be incorporated into the mandated series of reports on the impact of PPS.

The current report found that the rural hospital swing-bed program was implemented smoothly and has fulfilled its objective of providing greater access to long-term care services in rural areas in an effective and economical manner. Accordingly, I recommend that the program be continued and that a limitation be placed on the amount of postacute care that swing-bed hospitals can render to long-term patients.

The limitation being recommended is to require rural swing-bed hospitals that furnish more than 1,000 days of long-term (i.e., postacute) care to patients with lengths of stay of 60 or more days to meet all of the conditions of participation for skilled nursing facilities (SNF). The latter suggestion is based on the finding that swing-bed hospitals as a whole do not adequately meet the continuing needs of the traditional long-term nursing home type of patient; one with chronic disabilities and in need of assistance with the activities of daily living. In rendering long-term care beyond the proposed threshold, the hospital is in the long-term care business beyond the intent of the swing-bed concept. By establishing the proposed limit on the amount of long-term care to be furnished in what is still essentially an acute care setting, the quality of care to these long-term care patients would be better assured. To meet this requirement, the hospital could establish a distinct-part SNF. The rationale for both recommendations is discussed more extensively in the report.

From the findings of the evaluation, consideration could be given to extending the swing-bed option to rural hospitals with 50 or more beds. The option is currently limited to rural hospitals with fewer than 50 beds. At this time, however, I am recommending that the swing-bed concept not be extended to urban hospitals and that the present methods of paying for postacute swing-bed services be retained. The bases for these recommendations are also discussed in the report. HCFA plans to develop demonstration projects which test alternative methods of paying for acute and postacute services, including combining both levels of care under one payment arrangement.

The Department of Health and Human Services will continue to monitor the swing-bed program and to undertake those administrative improvements which will further its success as a means of providing effective and economic access to long-term care services in our rural areas.

Sincerely,

Otis R Bowen M.D.

Otis R. Bowen, M.D.
Secretary

Enclosure

THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON D.C. 20201

FEB 5 1988

The Honorable Jim Wright
Speaker of the House of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

I am pleased to submit the enclosed Report to Congress, "Evaluation of the Rural Hospital Swing-Bed Program." This evaluation was mandated by the Omnibus Reconciliation Act of 1980 (P.L. 96-499). This report constitutes the first and principal evaluation of the swing-bed program. A second component of the evaluation addresses the impact of the hospital prospective payment system (PPS) on the swing-bed program. This second component was added after the enactment of the PPS program and is still in progress. The findings and recommendations from the second component will be incorporated into the mandated series of reports on the impact of PPS.

The current report found that the rural hospital swing-bed program was implemented smoothly and has fulfilled its objective of providing greater access to long-term care services in rural areas in an effective and economical manner. Accordingly, I recommend that the program be continued and that a limitation be placed on the amount of postacute care that swing-bed hospitals can render to long-term patients.

The limitation being recommended is to require rural swing-bed hospitals that furnish more than 1,000 days of long-term (i.e., postacute) care to patients with lengths of stay of 60 or more days to meet all of the conditions of participation for skilled nursing facilities (SNF). The latter recommendation is based on the finding that swing-bed hospitals as a whole do not adequately meet the continuing needs of the traditional long-term nursing home type of patient; one with chronic disabilities and in need of assistance with the activities of daily living. In rendering long-term care beyond the proposed threshold, the hospital is in the long-term care business beyond the intent of the swing-bed concept. By establishing the proposed limit on the amount of long-term care to be furnished in what is still essentially an acute care setting, the quality of care to these long-term care patients would be better assured. To meet this requirement, the hospital could establish a distinct-part SNF. The rationale for both recommendations is discussed more extensively in the report.

From the findings of the evaluation, consideration could be given to extending the swing-bed option to rural hospitals with 50 or more beds. The option is currently limited to rural hospitals with fewer than 50 beds. At this time, however, I am recommending that the swing-bed concept not be extended to urban hospitals and that the present methods of paying for postacute swing-bed services be retained. The bases for these recommendations are also discussed in the report. HCFA plans to develop demonstration projects which test alternative methods of paying for acute and postacute services, including combining both levels of care under one payment arrangement.

The Department of Health and Human Services will continue to monitor the swing-bed program and to undertake those administrative improvements which will further its success as a means of providing effective and economic access to long-term care services in our rural areas.

Sincerely,

Otis R Bowen M.D.

Otis R. Bowen, M.D.
Secretary

Enclosure

Evaluation of the Rural Hospital Swing Bed Program

Otis R. Bowen, M.D.
Secretary
Department of Health and Human Services

October 1987

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EVALUATION OF THE RURAL HOSPITAL SWING-BED PROGRAM

EXECUTIVE SUMMARY

A. INTRODUCTION

The rural swing-bed program was enacted by Congress in the Omnibus Reconciliation Act of 1980 (P.L. 96-499). In passing this legislation, Congress envisioned it would encourage the most efficient and effective use of inpatient hospital beds for the delivery of hospital, skilled nursing, or intermediate care services to Medicare and Medicaid beneficiaries in rural areas. In order to determine the program's impact, Congress required the Secretary to submit a report describing the program's experiences. Section 904(c) specified that the report consider:

1. the extent and effect of the program on the availability and effective and economical provision of long-term care services in rural areas,
2. whether such programs should be continued,
3. the results from any demonstration projects conducted under the programs, and
4. whether eligibility to participate in such programs should be extended to other hospitals regardless of bed size or geographic location where there is a shortage of long-term care beds.

In order to carry out this mandate, the Health Care Financing Administration (HCFA) contracted with the Center for Health Services Research of the University of Colorado to conduct an evaluation of the program. This report is based largely on the work of the Center. The results of the findings and the issues identified in the course of the evaluation are summarized in Section B. Section C discusses some of the issues identified in the course of the evaluation and provides HCFA's recommendations on the positions to be taken at this time or plans for further monitoring and evaluation of the program's experiences.

B. SYNTHESIS OF FINDINGS AND ISSUES RELATED TO THE CURRENT PROGRAM

1. Hospital Participation in the National Swing-Bed Program

About 40% of the eligible hospitals in rural areas are now certified to provide swing-bed care. The total number of certified swing-bed hospitals represents approximately 15% of all Medicare-certified, short stay general hospitals in the United States. While the national swing-bed program began slowly in the earlier 1980s, its growth has been rapid over the past 3 years, resulting in 899 hospitals certified for swing-bed care by July 1986. Swing-bed hospitals are predominantly concentrated in the larger rural land areas of the midwestern States, although western, southern, and southeastern States also have relatively high participation rates in the national swing-bed program. Nine of the 11 States with no participating hospitals in July 1986 were located in or near the northeastern section of the country, largely because fewer rural communities and land areas are located in this region. In general, swing-bed hospitals and the communities in which they are located tend to be characterized by lower acute care occupancy rates, a lower ratio of physicians to elderly persons, a larger elderly population, and fewer Medicare skilled nursing facility (SNF) beds per elderly, than rural hospitals and communities not participating in the swing-bed program.

2. Utilization of Swing Beds

In 1986, 97% or 872 of the 899 certified swing-bed hospitals were providing long-term care in swing beds. Based on 1985 utilization data (the latest available), the participating hospitals averaged 50 admissions and 964 days per year of long-term care in swing beds, with an average length of stay of about 20 days. Approximately three-fourths of all swing-bed admissions were from acute care, with about two-thirds of these admitted from the acute care portion of the swing-bed hospital it self. (For nursing home patients, only about half were admitted from acute care.)

Medicare reimbursed for 49% of swing-bed days in 1985. Medicare payments are made only in those instances where the services furnished to Medicare beneficiaries meet the same skilled nursing or rehabilitation care criteria required to reimburse SNFs. The average Medicare patient's length of stay was 14 days. Medicaid, which covered swing-bed care in 22 of the 39 States with participating hospitals, covered only 8% of swing-bed care in 1985, with an average length of stay of 48 days. Medicaid payments may be made for either skilled nursing or intermediate care services, depending on the provisions of the State benefit structure. Other payers, chiefly private pay, covered the remaining 43% of days. Such patients had an average stay of 30 days. The majority of swing-bed days were SNF days.

3. General Purposes Served by Swing Beds

Although a few hospitals provided more than 2,500 days of swing-bed care in 1985, over 90% used swing beds to provide care to relatively short stay long-term care patients. For the most part, swing beds are used to provide subacute long-term care to patients who are more difficult to place in community nursing homes owing to their intense needs for medical and highly skilled nursing care. Such patients are either discharged home or to community nursing homes after a relatively brief stay in a swing-bed hospital. In most instances, swing beds serve as holding beds until patients are sufficiently rehabilitated to return home or until a nursing home bed becomes available in the community. At times, however, swing beds are used to fill other gaps in the long-term care delivery system in rural communities, especially when community nursing home beds are fully occupied. In such situations, swing-bed hospitals provide more traditional long-term care, such as that commonly found in nursing homes. Even in these circumstances, swing-bed stays appear to be considerably shorter than nursing home stays.

4. Community Retention and Access

Earlier data from the Utah swing-bed demonstration program in the 1970s indicated that a per capita increase in the number of Medicare SNF patients receiving care in their home community occurred as a result of the swing-bed approach. In terms of the present program, over 75% of nurses and over 90% of physicians in swing-bed communities estimate that the swing-bed program has enhanced the retention of long-term care patients in their home communities. One indication of this is that the average distance from home was 21 miles for swing-bed patients compared to 50 miles for nursing home patients.

Although nursing home administrators and others have expressed concern that swing beds compete directly with nursing home beds, a partial exploration of this issue found no evidence of statistically significant decreases in nursing home occupancy rates. In fact, in one of the States with the largest number of swing-bed hospitals, nursing home occupancy rates actually increased in swing-bed communities between 1982 and 1985.

5. Cost of Swing-Bed Care to Hospitals

Under the assumption that hospital beds exist primarily for the provision of acute care, their use in the provision of long-term care is designed to take advantage of declining acute care occupancy rates and surplus hospital capacity. As such, based on special analyses of hospital cost reports, the cost of swing-bed care to long-term care patients was calculated as an incremental cost, i.e., the additional cost of providing long-term care given that the beds and associated resources already exist for the provision of acute care. The incremental costs for routine and for ancillary long-term care provided in swing beds in 1984 were estimated as $33 to $34 and $19 to $21 per day, respectively. These costs were below the average per diem estimated swing-bed revenues of $44 for routine care and $32 for ancillary services.

6. Cost of Swing-Bed Care to Medicare and Medicaid

It appears that a portion of Medicare use of hospital swing beds has been caused by the prospective payment system (PPS). The more specific issue of whether, under PPS, rural swing-bed hospitals have "gamed the system" by transferring patients to the SNF level of care to gain additional revenue cannot be definitively answered at this time. Available evidence does not point to this as a widespread practice. However, this issue is the subject of the study of the impact of PPS on the swing-bed program. The findings will be incoporated into the series of PPS impact reports. There is consensus, however, that nursing home case mix did not change substantially in swing-bed communities before and after the implementation of the swing-bed program. Site visits have tended to confirm that many of the SNF patients receiving care in hospital swing beds would have remained for longer periods as acute care patients prior to PPS and would have been discharged to urban SNFs at the present time if swing beds were not available. Based on 1984 data and the assumption that swing-bed patients would have been placed in equal numbers in freestanding and hospital-based rural SNFs in the absence of the swing-bed program, the use of swing beds to provide Medicare SNF care resulted in a per day saving to Medicare of approximately $16. The saving was greater to the extent that swing-bed patients would have otherwise gone to urban SNFs or to newly constructed or expanded facilities.

The overall routine and ancillary cost to the Medicare program of providing SNF care in hospital swing beds in 1985 was $26 million. If the SNF care had been rendered at places other than in the rural hospitals' swing-beds (i.e., freestanding SNF's or in a distinct part SNF of a hospital), routine care would have cost an average of $16 more per day. The total Medicare cost to provide such care in rural communities in 1985 would have been $5 million more. Since Medicaid covered a substantially lower portion of swing-bed care, its 1985 annual cost for long-term care provided to swing-bed patients is estimated to be only slightly over $2 million.

7. The Volume Threshold Area When Swing Beds Should be Considered as Nursing Home Beds

The incremental cost of routine long-term care provided in swing beds was found to increase as a function of total swing-bed patient days. The point at which it is no longer cost-effective to retain hospital beds as swing beds (i.e., where it would appear to be more reasonable to convert them to permanent nursing home beds) ranges between 1,500 and 3,000 days of swing-bed care. (In this study, swing-bed routine cost for the average swing-bed hospital began to exceed swing-bed revenues at approximately 2,000 days of swing-bed care per year.) While hospital circumstances and State-specific reimbursement rates may increase the break-even point even beyond 3,000 days, some such threshold would appear to exist for any hospital. If a hospital's swing-bed experience indicates a strong and stable demand for long-term care, such a demand clearly indicates a hospital has moved into the nursing home business. Its cost structure, staffing needs, and care orientation associated with swing beds are basically the same as a nursing home's when it reaches this threshold.

8. Types of Long-Term Care Patients Cared for in Swing Beds

Swing-bed patients have substantially shorter stays and greater rehabilitation potential than nursing home patients. They are less frequently characterized by typical long-term care problems, such as incontinence, mental status or cognitive functioning problems, dependence in activities of daily living (ADLs), and related psychological or social problems. However, swing-bed patients tend to have more subacute problems, such as recovery from surgery, hip fracture within the past 6 weeks, shortness of breath, and the need for intravenous catheters. In general, the long-term care needs served by swing-bed hospitals are substantially different from those served by community nursing homes. Swing-bed hospitals exhibit a tendency to treat subacute problems which need more intense medical and skilled care, while nursing homes care for patients with problems more typically seen in institutional long-term care settings. The average swing-bed patient appears to be at least 20% more costly to care for per day than the average nursing home patient. This case mix difference appears to be one of the reasons why swing-bed care is not regarded as a substitute for (or in competition with) nursing home care in most locations.

Relative to home health patients, however, swing-bed patients are more dependent in ADLs such as bathing, dressing, using the telephone, and handling finances. In addition, swing-bed patients are characterized by a somewhat more intense set of medical and skilled nursing needs than home health patients in areas such as hip fracture, stroke, and conditions requiring intravenous catheters. Swing-bed patients are also more dependent than home health patients in areas such as incontinence and mental status problems. The differences between swing-bed patients and home health patients in terms of subacute needs, however, are not as substantial as the differences between swing-bed patients and nursing home patients. The greater dependency in physical and cognitive functioning on the part of swing-bed patients renders their need for continuous skilled nursing and medical care greater than the intermittent needs for such care more typically associated with home health patients.

The results therefore suggest a continuum of dependency and subacute problem intensity in the case mix that characterizes swing-bed patients, home health patients, and nursing home patients. Overall, nursing home patients tend to be more dependent in traditional measures of functioning than swing-bed patients, which in turn are more dependent in functioning than home health patients. Subacute care needs, however, appear to be strongest in swing-bed patients, although when a certain level of rehabilitation has been reached, such patients can and should be discharged to home health care. In home health settings, certain types of medical services are more frequently provided on an intermittent basis to patients with subacute needs than is the case with more traditional nursing homes. Nonetheless, home health care also relies on a reasonable degree of independence in physical and mental functioning. Therefore, especially in rural communities where distances home health nurses have to travel can be substantial, swing beds serve the purpose of providing continuous medical and skilled nursing care for a relatively short institutional stay to subacute patients. Often, such patients are subsequently discharged home with intermittent home health care to continue the rehabilitation process.

9. Quality of Long-Term Care in Swing Beds

Taking into consideration or adjusting for the case mix differences just noted, swing-bed patients were discharged home sooner and more frequently than nursing home patients. (The frequency of written discharge plans was found to be greater for swing-bed than for nursing home patients, based on samples of patients discharged from each setting.) This seems to reflect the stronger rehabilitation philosophy that accompanies the provision of acute and subacute care. Based on the criteria used in this study, subacute nursing services were found to be provided moderately better in swing-bed hospitals relative to nursing homes. However, more traditional long-term care nursing services were provided better in nursing homes. These differences tended to persist after adjusting for case mix differences. Physician visits, x-rays, laboratory tests, and intravenous medications all occurred substantially more frequently for swing-bed patients than for nursing home patients, after adjusting for case mix differences. In all, it appears that long-term care to subacute patients is provided at least as well and very likely better in swing-bed hospitals than in community nursing homes in rural areas. However, it also appears that the care typically required for longer-stay, chronically ill or disabled long-term care patients is provided better in community nursing homes.

10. Hospital and Program Administration

The reasons most frequently cited by hospitals for joining the program were to meet a community need for long-term care and to provide better continuity of care. Increased revenues and more efficient use of staff resources were also frequently cited reasons for joining the program. Generally, the problems and difficulties associated with implementing the swing-bed approach at the hospital level declined in importance over time as hospitals gained experience with the program. Staff resistance, particularly from the nursing staff who were concerned that the hospital would become primarily a nursing home, was often cited as a major start-up problem. Dissatisfaction with reimbursement was viewed as a significant start-up and ongoing problem by many swing-bed hospitals. Despite the fact that incremental cost appears to be covered by the current reimbursement structure, most hospital administrators felt reimbursement was inadequate. Other administrative entities such as HCFA regional offices, State certification agencies, State planning agencies, Medicare Part A intermediaries and Part B carriers, Medicaid fiscal agents, and Peer Review Organizations (PROs), generally required few resources to incorporate the swing-bed program into their operations. Most agencies shifted personnel to the swing-bed program, and usually no new personnel were added. Few agencies reported any start-up or ongoing problems associated with the administration of the program. One of the most frequently mentioned problems by agencies was misunderstanding of regulations and program requirements by hospitals.

11. Demonstration Projects

No demonstration projects involving the testing of alternative arrangements for implementing the swing-bed concept have been carried out. There has been a great deal of interest in developing a swing-bed demonstration project in urban areas. Because of failure to reach agreement on key issues, further discussions were terminated. Based on this evaluation, HCFA plans to investigate the potential for developing new approaches toward the payment of acute and postacute care in urban hospitals.

C. POLICY ISSUES AND RECOMMENDATIONS

This section addresses the questions specifically posed by the Congress in mandating this evaluation and discusses issues identified in the course of conducting the evaluation. HCFA's recommendations concerning the issues identified are given.

For convenience the key recommendations are listed below. These are followed by a discussion of the rationale underlying each of the recommendations.

- The rural swing-bed program should be continued.

- At this time, eligibility to elect the swing-bed option should not be extended to urban hospitals. HCFA plans to explore alternative models for testing the payment of acute and postacute care in urban hospitals.
- The current method for determining the rate of payment for routine long-term care in a swing-bed hospital should be retained.
- Ancillary services to patients receiving long-term care in a swing-bed hospital should continue to be reimbursed at cost.
- HCFA will continue to monitor the cost behavior of hospitals and nursing homes and the use of ancillary services in swing-bed hospitals. Alternative payment arrangements will be explored.
- HCFA will review current visit screens for physician services by place of service with the intent of developing consistent criteria specific to physician visits to patients receiving long-term care in swing-bed hospitals.
- Swing-bed hospitals furnishing more than 1,000 days of long-term care to patients with stays of 60 or more days should be required to meet all conditions of participation for SNFs. This may entail the creation of a distinct-part SNF.
- HCFA will undertake a review of the desirability of conducting regular surveys of the long-term care services furnished in swing-bed hospitals.
- HCFA will draw on the growing experience of PROs to determine the feasibility of developing guidelines governing the transition of patients from acute to postacute care in swing-bed hospitals.

From the results of this study, consideration could be given to extending the swing-bed option to larger rural hospitals; for example, to those with fewer than 100 beds.

1. Continuation of the Rural Swing-Bed Program

Despite certain weaknesses and disadvantages of the rural swing-bed program that are usually restricted to individual communities or providers, the weight of the evidence gathered as part of the evaluation study supports a continuation of the national rural swing-bed program. On balance, its most important attribute is that it increased access to cost-effective long-term care in many rural communities throughout the country. It has been accepted by residents of rural areas and by health care professionals. Relatively few administrative difficulties have been encountered in its implementation. To eliminate the opportunity for small rural hospitals to provide long-term care in swing beds would not only be detrimental to many rural residents, but it might possibly increase Medicare costs. It is doubtful that more than a small portion of Medicare SNF days of care provided in hospital swing beds would be eliminated by virtue of abolishing swing beds. Because of the incentives embedded in PPS, these relatively short-stay SNF admissions of Medicare patients to swing beds would probably translate into somewhat longer SNF stays in existing or newly constructed/converted SNF beds in rural and in more distant urban communities that would be more costly to Medicare.

2. Eligibility to Elect the Swing-Bed Option

a. Bed Size Limits: At the present time, whether the hospital meets the current bed size limit for eligibility to participate in the swing-bed program is largely determined by applying the prior year's acute care occupancy rate to the total number of licensed beds that are not special care unit or newborn beds. While this is somewhat generous in the eyes of regulators in some regions, the marginal increase in the number of swing-bed hospitals resulting from this approach rather than more stringent ones, appears to be inconsequential. It does not appear appropriate to mandate a uniform method of determining eligibility at the region or State level, however. The individual circumstances of each region or State, in terms of the supply of and demand for subacute long-term care beds, can more readily be taken into consideration with out a strictly enforced guideline for determining effective beds.

On the basis of the above size criterion, 2,236 rural hospitals are currently eligible to participate in the swing-bed program. There are an additional 1,023 hospitals in areas defined as rural by the Census Bureau. Many of these hospitals are located in rural communities where swing beds are not available and an unmet need for long-term care services appears to exist. Consideration could be given to extending the swing-bed option to rural hospitals with fewer than 100 beds. If the bed size eligibility criterion were to be increased to include hospitals with fewer than 100 beds, it would increase the pool of hospitals eligible to elect the swing-bed option by 640 hospitals and increase the availability of long-term care services in rural areas.

b. Urban Hospital Eligibility: At the present time, urban hospitals are ineligible to elect the swing-bed option, regardless of size. The swing-bed option has embedded in it the opportunity to "game" the system by discharging acute care patients to the skilled nursing level of care to gain additional revenue beyond that provided by the diagnosis related group (DRG) payment rate. However, the findings of the evaluation suggest that the differences between urban and rural communities may lead to differential use of the opportunity to "game" the system. In urban areas, distances between patients' residences and providers are usually substantially shorter and consumers usually have a larger number of providers to choose from. Further, urban hospitals generally have a greater capacity to maximize revenues through more sophisticated means. These considerations suggest that a conservative posture to extending the swing-bed option to urban hospitals is warranted. For these reasons, HCFA recommends that the swing-bed option not be extended to urban hospitals at this time. HCFA plans to develop demonstration projects which test alternative methods of paying for acute and postacute services, including combining both levels of care under one payment arrangement. These demonstrations, would permit an assessment of the utility and cost effectiveness of expanding the swing-bed approach to urban hospitals.

Many urban hospitals, under the impetus of PPS, are converting part of their facilities to distinct-part SNFs to create "transitional" beds; so-called because they are used to facilitate the patient's transition between acute care and SNF and/or home care. From the viewpoint of Medicare's program costs, the conversion to distinct-part SNFs may be more costly than providing the swing-bed option, assuming that conditions for controlling "gaming" can be developed.

3. Reimbursement Arrangements

a. Routine Care: At the present time, Medicare per diem reimbursement for swing-bed routine care is determined separately for each State as the average statewide Medicaid reimbursement rate (by level of care) for the preceding year. On average, this rate covers the incremental cost of providing routine long-term care in swing beds. The current method of paying for routine care should be retained. HCFA will continue to monitor the relationship of payment rates based on the current methodology to changes in the relative behavior of nursing home and hospital incremental costs to determine whether, in the interest of equity, modifications of the current methodology are indicated. Concurrently, HCFA will continue to explore alternative payment arrangements through demonstration projects or through experience gained from nursing home reimbursement systems used in several States. These may include payments based on case mix, on total stay rather than on a per diem basis, or combining the cost of acute and postacute care.

b. Ancillary Services: At present, ancillary services to swing-bed patients are cost reimbursed by Medicare. As with reimbursement for routine care, the present reimbursement for ancillary care was found to cover the incremental cost of ancillary services provided to swing-bed patients. A potential problem that has surfaced, albeit in only a few settings, is the abuse of the present reimbursement methodology through the overprovision of ancillary services. Since the current methodology is akin to reimbursement for all Medicare ancillary hospital services prior to PPS, it is a direct function of the volume of ancillary services. Consequently, discharging patients as rapidly as possible from acute care to swing-bed care, and providing the ancillary services largely after discharge from acute care, results in maximizing ancillary reimbursement. As mentioned, this ancillary service "postacute loading" does not appear to be taking place in swing-bed hospitals, with the exception of a few individual facilities. Since abuse appears minimal at this time, HCFA recommends retention of cost reimbursement for ancillary services. However, HCFA will continue to monitor ancillary service utilization in swing-bed facilities, and, concurrently, explore alternative arrangements of paying for ancillary services. These may include setting a per day or per year limit on payments for ancillary services to swing-bed patients. The feasibility of developing and testing alternative arrangements for combining routine and ancillary services in one payment scheme is an option that could be explored in demonstration projects.

c. Physician Services: The evaluation found that physicians visit their swing-bed patients with greater frequency than their nursing home patients. However, less than half the physician visits to long-term care patients in hospital swing beds appear to be covered by either third party payers or the patient. One reason for this is the wide variation in the number of physician visits to postacute swing-bed patients allowed by Medicare carriers. For the most part, the number of visits allowed are based on screens promulgated by Medicare for physician visits in nursing homes (generally, intermediate care level patients), SNFs, and hospitals. Generally, the swing-bed visit limits are more generous than the physician visit limits for Medicare patients in certified SNFs. This appears reasonable in view of the greater intensity of care required by postacute swing-bed patients. Swing-bed visit limits closer to those for acute care patients appear warranted. However, the wide variation in the limits noted in the evaluation is inappropriate. HCFA will undertake a review of the situation with the intent of adding the postacute swing-bed patient to the categories of patients for which a screen for physician visits is established.

4. Quality of Care and Standards

a. Volume Thresholds: The evaluation showed that swing-bed hospitals and nursing homes in rural areas have evolved into serving two distinct but partly overlapping long-term care markets. Generally following the acute hospitalization phase, the swing-bed hospitals tend to treat what might be characterized as the "subacute" patient. These patients require more intense and skilled nursing care services for further recovery and rehabilitation from illness and are discharged, on average, within 20 days. The tendency for swing-bed hospitals to avoid traditional nursing home care was found to be rather pronounced. At the subacute phase the quality of services furnished by the hospital was found to be better overall, than those furnished by the nursing homes. On the other hand, nursing homes provide higher quality traditional long-term care.

This difference between the two types of facilities in their modal case mix and ability to care appropriately for the different types of patients was embedded in the regulations which implemented the swing-bed legislation. The conditions of participation applicable to swing-bed hospitals were predicated on the assumption "...that patients in swing-bed hospitals are less likely to become long-term residents." Accordingly, the regulations attempted to avoid imposing significant burdens on rural hospitals by requiring adherence only to those SNF standards that are necessary and appropriate to SNF patient care and do not duplicate existing hospital requirements, do not require extensive structural modifications, and are unnecessary in what is primarily a general routine inpatient hospital setting. In short, the regulations did not contemplate the swing-bed hospital as providing a significant amount of the traditional type of long-term nursing home care.

The evaluation found that a few swing-bed hospitals provided a significant amount of care to persons who remained in the facility for 60 or more days. The evaluators found that these patients' needs are more akin to the "traditional" long-term nursing home patient which the swing-bed hospitals were found to be less capable of meeting than nursing homes. The evaluators proposed the establishment of volume thresholds for long-term care at which a swing-bed hospital is providing a significant amount of such care and special measures to assure quality of care need to be taken. HCFA agrees with this assessment and recommends that a swing-bed hospital which provides more than 1,000 days of long-term care (at either the skilled or intermediate levels of nursing care) in 1 year to patients with stays of 60 or more days should be required to meet all SNF conditions of participation. To meet all conditions of participation as an SNF, the hospital may elect to create a distinct-part facility. If this option were chosen, the hospital's reimbursement for SNF services in the distinct-part facility would be based on incurred costs. However, despite the increased costs involved in meeting all SNF conditions of participation, some hospitals may prefer to retain the flexibility to use all of their beds for acute care although, as a swing-bed facility, they would still be paid on the basis of the previous year's Medicaid rates for "subacute" services. The hospital should be allowed to decide the course it elects to take on this question.

A further threshold might be established at 2,000 days of long-term care to all patients. However, if the swing-bed option were extended to larger hospitals these hospitals may be more likely to furnish 2,000 or more days of appropriate subacute care services to a larger number of patients. The latter option, which is not being recommended at this time, can be reassessed in light of further experiences, even if the bed size eligibility criterion remains unchanged.

b. Periodic Review: The evaluators found greater State to State variation in certifying swing-bed hospitals as long-term care providers than in certifying nursing homes. The evaluators recommended that principles and guidelines should be established for conducting surveys in swing-bed hospitals that provide a significant amount of traditional nursing home care. HCFA will undertake a review of this issue and, in conjunction with the earlier recommendation on the establishment of volume thresholds and the requirement that PROs review transfers between acute and long-term care in swing-bed hospitals (see below), institute arrangements that will assure that the needs of long-term care patients are appropriately met in swing-bed hospitals.

c. PROs: HCFA's contracts with PROs include a review of swing-bed hospitals; particularly, transfers between acute and postacute levels of care. This review provides a mechanism for assuring that the transfer is medically appropriate. In addition, it provides a control on any "gaming" that might take place in making transfers to maximize total revenues derived from the DRG payments for the acute care phase and the payments for routine and ancillary services rendered during the postacute phase. At this time, the indicators for the appropriateness of such transfers are not always clear. As such, clinical judgements are the key basis for the determination of appropriateness. It is expected that more experience will increase the clinical base for developing guidelines governing the transition of patients from acute to subacute care in swing-bed hospitals. The second component of this evaluation, which examines the impact of PPS on the swing-bed program, will address this issue further through analysis of PRO acute care admission, readmission, and transfer denial rates. Also, comparisons will be made of acute care readmissions from swing-beds relative to nursing home or SNF beds.

CHAPTER I

STUDY OBJECTIVES AND HISTORY OF THE SWING-BED CONCEPT

A. STUDY OBJECTIVES

1. Background

The rural swing-bed program was instituted by the enactment of the Omnibus Reconciliation Act of 1980 (P.L. 96-499). In passing this legislation, Congress envisioned it would encourage the most efficient and effective use of inpatient hospital beds for the delivery of hospital, skilled nursing, or intermediate care services to Medicare and Medicaid beneficiaries in rural areas. Many small rural hospitals were operating at low occupancy rates. In order to determine the program's impact, Congress required the Secretary to submit a report describing the program's experiences. Section 904(c) specified that the report consider:

a. the extent and effect of the program on the availability and effective and economical provision of long-term care services in rural areas,

b. whether such programs should be continued,

c. the results from any demonstration projects conducted under the programs, and

d. whether eligibility to participate in such programs should be extended to other hospitals regardless of bed size or geographic location where there is a shortage of long-term care beds.

To carry out this mandate, the Health Care Financing Administration (HCFA) contracted with the Center for Health Services Research of the University of Colorado to evaluate the program. This report is based largely on the work of the Center. A second component was added to the evaluation to assess the impact of the hospital prospective payment system (PPS). This component was added when it became clear that PPS, passed after the enactment of the swing-bed program, would have a significant impact on the appeal of the swing-bed option. This aspect of the evaluation is still being conducted and definitive findings and conclusions are not available at this writing. These will be included in the PPS report series. However, because of its significance to the election of the swing-bed option by eligible hospitals, this report refers frequently to PPS.

This study is based primarily on analyses of data and information associated with the extant national program. Not to be overlooked, however, is the considerable experience gained with the swing-bed approach between 1973 and 1980, much of which contributed to shaping the program put in place by Congress through P.L. 96-499. This experience included demonstration and evaluation programs in Utah, Iowa, South Dakota, and Texas. Therefore, while the findings and conclusions presented in this document are based largely on a study of the current swing-bed program, they draw on and are at times discussed in the context of the history and characteristics of the swing-bed approach as it existed prior to 1980.

2. Main Objectives

To address the question posed by Congress in P.L. 96-499, this study was designed to answer questions in five distinct areas:

a. Participation and Use: What are the patterns of participation and use that characterize hospital involvement in the swing-bed program, and what factors are associated with or influence such patterns? (For purposes of this study, swing-bed "participation" by a hospital occurs when the hospital becomes certified to provide swing-bed care. "Use" results when the hospital actually provides care to swing-bed patients.)

b. Case Mix: Does the case mix of long-term care patients who receive care in hospital swing beds differ from the case mix of nursing home patients in the same types of communities?

c. Quality: Is the quality of long-term care provided to patients in hospital swing beds adequate?

d. Cost: What is the cost of swing-bed care relative to nursing home care, and is the current reimbursement approach adequate to cover the costs of swing-bed care?

e. Viability of Swing-Bed Care: Do the findings in the above areas indicate that the swing-bed program should be continued or expanded? What should be the short-run and long-run national policies on swing-bed care?

The general approach taken to addressing these questions is summarized in Chapter II. Further details are available in other study reports (for example, the research design is presented in Shaughnessy, Schlenker, Yslas, 1983). While the questions in each of the five areas highlight the major topics addressed by the evaluation, a number of related hypotheses were also examined. Issues related to such hypotheses are discussed, and associated findings presented, in the remainder of this report.

B. HISTORICAL SYNOPSIS OF SWING BEDS

In January 1973, HCFA funded a demonstration study in Utah designed to assess the appropriateness of providing long-term care in hospital beds without requiring the participating 25 hospitals to meet all regulations normally required of nursing homes (Aland and Walter, 1978; Shaughnessy et al., 1978). Three additional swing-bed demonstrations were funded by HCFA in 1976 and 1977 in Texas, South Dakota/Western Iowa, and Central Iowa. These three demonstrations involved 39, 22, and 21 rural hospitals, respectively, and, along with the Utah demonstration, were in place until about 1980. The four demonstration programs were accompanied by a research and evaluation program to assess the viability of the swing-bed approach and to recommend whether it should be implemented nationally (Shaughnessy et al., 1980).

The approach proved popular in rural areas, receiving both public and private sector support. In addition, the research and evaluation program associated with the four demonstrations found swing beds to be cost effective and recommended that a national program be implemented. After Congress passed the enabling legislation, HCFA published the initial regulations on July 20, 1982. With the exception of reimbursement amendments published September 1, 1983, these initial regulations were also the final regulations.

The period from 1982 through 1985 was characterized initially by uncertainty on the part of rural hospitals as to whether the swing-bed approach was worthwhile. PPS, both prior to and after its implementation in the Social Security Amendments of March 1983 (P.L. 98-21), exerted a strong influence in this regard. Yet it was not the only reason for concern on the part of the hospital industry during this period. Other changes in hospital reimbursement also took place due to the Tax Equity and Fiscal Responsibility Act (TEFRA) that became law (P.L. 97-248) in September 1982. After PPS, the Deficit Reduction Act of 1984 (DEFRA) was passed (P.L. 98-369) in July 1984. DEFRA provided a some what more favorable climate for hospitals to provide long-term care by reinstating a new version of the Medicare separate reimbursement limits for hospital-based and freestanding SNF care that had been eliminated under TEFRA.

Following the passage of the Omnibus Reconciliation Act of 1980, the Robert Wood Johnson Foundation (RWJF) initiated its rural hospital program of extended care services (Kovner and Richardson, 1987; and Richardson and Kovner, 1986). This program was designed to foster the growth of swing-bed care in selected rural areas by funding five hospital associations and 26 hospitals to develop model approaches to swing-bed care. It began in 1982 and will continue through 1987 in Kansas, Mississippi, Missouri, New Mexico, and North Dakota.

In addition to the RWJF program, three other information dissemination efforts and activities had a major effect in contributing to the awareness of swing-bed care by rural hospitals after the initial regulations had been promulgated. First, in November 1982, Hospitals devoted several feature articles to the topic of swing-bed care. Secondly, in 1984, the American Hospital Association (AHA) published a planning guide for rural hospitals interested in providing swing-bed care (Supplitt, 1984). Third, in 1985 and 1986, AHA sponsored several workshops in various sections of the country to assist hospitals in deciding whether to participate in the swing-bed program and how to initiate a swing-bed approach at the hospital level. Thus, chiefly by means of the experience gained through HCFA's demonstration programs, the RWJF grant program, the material published in Hospitals, and AHA's initiatives, a sufficient base for the swing-bed approach had been established so that the national program began to grow substantially in 1984. By the end of 1984, 471 hospitals were participating in the program, compared with only 58 hospitals in late 1982. Additional information on the history of the swing-bed program can be found in the article by Shaughnessy and Schlenker (1986).

C. THE CONTEXT OF RURAL SWING-BED CARE

In assessing the value and impact of the swing-bed program, the rural context of the program must be kept in mind. The rural economy is largely dependent on basic industries, such as mining, oil, forestry and agriculture. These industries often experience major shifts, such as the recent collapse of the energy boom and the longer-term decline in lumber and agriculture prices (AHA, 1986). Such changes can cause considerable hardship and make it difficult for rural communities to support financially an adequate health care delivery system.

With regard to health services, rural communities often have few health care providers and long travel distances are common. Rural hospitals are typically small (with fewer than 50 beds in most cases), with low acute care occupancy rates. Such hospitals, however, often serve as a focal point in rural communities. Volunteer participation and other community involvement with the hospital is usually high, and staff and patients often know one another quite well. Long-term care is frequently unavailable locally, requiring patients to be transferred to distant urban areas for long-term care, often placing considerable stress on both the patient and his or her family.

In this context, the ability of hospitals to pursue varied financial and marketing strategies in the face of declining occupancy is severely limited by the lack of feasible options and tight constraints on resources. The rapid changes in the reimbursement environment, for example the recent TEFRA and PPS changes, are often extremely difficult for small rural hospitals to absorb. Many such hospitals close. Although such closures are no doubt appropriate in certain situations, in other cases they may create adverse effects for rural communities by increasing access barriers to care.

In such a setting, the swing-bed option is often viewed as a viable approach to both maintaining an acute care institution in a rural community and providing much needed long-term care much closer to patients' homes and families. Although these features of the rural environment are difficult to place a value on, they should be taken into consideration in assessing the overall effectiveness of the swing-bed program.

CHAPTER II

STUDY APPROACH, METHODS, AND DATA

A. THE THREE STUDY COMPONENTS

Results documented in this report are from the original study funded by HCFA in 1983. Two additional augmentations to this core study were funded by RWJF and HCFA for other purposes. To properly place the results and conclusions of this report in the context of all three study components, the general nature of each of these components is summarized below, since each has a bearing on the study methods and data although the finalized analyses and conclusions are not included in this report.

1. Core Component

This is the original and largest of the three study components in terms of data analyzed, scope of work, and resources consumed. It was funded by HCFA in September 1983 to analyze and describe the overall nature of the swing-bed program across the country, especially in terms of utilization, supply, and financial characteristics. It is also intended to assess case mix and certain dimensions of quality of care, although the second study component emphasizes patient outcomes and longitudinal patient-level data more strongly than the core study.

2. Foundation Component

In April 1984, RWJF funded this component of the study. It is designed primarily to compare the discharge disposition of swing-bed patients with nursing home patients and to follow selected swing-bed and nursing home patients after discharge from the facility. Its primary intent is to compare the use of health services and changes in health status between the two groups of patients. To a lesser extent, it is also designed to assess similarities and differences between the RWJF's 26 grantee hospitals and other swing-bed hospitals.

3. PPS Component

The core component was awarded at about the time PPS was implemented (in fact, the Request for Proposals (RFP) was developed prior to the enactment of PPS). Therefore, the core component de sign contained very few activities to examine the effect of PPS on swing-bed hospitals. In July 1985, HCFA augmented the core study to examine in greater depth the manner in which hospitals make use of the swing-bed approach in response to PPS. As with the first two components of the study, this study component addresses certain patient-level as well as facility and program issues.

Although the three components are distinct in purpose, they have been integrated in terms of the process of conducting the overall evaluation study. The present document presents the results of the core component, which is the national evaluation mandated by Congress. Activities associated with the second and third components have been structured and planned so as to culminate later in 1987. The reports for those components will deal more specifically with patient-level results and PPS impacts, respectively.

B. STUDY COMPARISONS

The more important analyses conducted for the core component of the study involved facility-level, community-level, and some patient-level comparisons.[1] Certain comparisons also involved a before/after dimension, especially those that dealt with swing-bed participation and utilization. Thus, a variety of two-group comparisons were conducted for different purposes, with the most important and frequent involving the four types summarized below.

1. Swing-Bed Hospitals and Nursing Homes

Swing-bed hospitals were compared with nursing homes in the same or similar communities in order to assess similarities and differences in case mix (of long-term care patients), process measures of the quality of care, discharge disposition for patients, certain types of costs, and relative perceptions of administrators and directors of nursing regarding long-term care demand and utilization in swing-bed communities.

2. Swing-Bed Hospitals and Comparison Hospitals

Swing-bed hospitals and nonswing-bed hospitals (eligible to participate in the swing-bed program) were compared primarily in terms of certain types of costs, but also in terms of facility characteristics, acute care utilization statistics, and community long-term care supply and use variables.

3. Comparisons Over Time

Several analyses required a comparison of baseline information in 1982 relative to program information in 1984, 1985, or 1986. This was especially true for swing-bed hospitals, comparison hospitals, and nursing homes in swing-bed communities or similar communities. In certain instances, only information for 1984 was available, even though 1985 or 1986 comparisons would have been preferable in contrasting certain factors before and after the implementation of swing beds.

4. Combinations

Some analyses entailed combining the comparative approaches just outlined. For example, comparing swing-bed hospitals with nonswing-bed hospitals in terms of occupancy rates entailed a comparison of the change in occupancy rates for the two facility types between 1982 and 1984.

The analyses for the study entailed four separate levels of investigation. Proceeding from general to specific, they consist of: the State or program level, the community level, the provider level (i.e., hospital, nursing home), and the patient level. Several of the hypotheses at which the study was targeted pertain to more than one level of analysis, while the majority were tested using data pertaining exclusively to one level. In several instances, data used in obtaining a specific result or in testing an individual hypothesis did not initially correspond to the level of analysis of the finding or the hypothesis, rather the data were aggregated or disaggregated to that level. For example, hospital or Medicare skilled nursing facilities (SNF) beds were aggregated for an entire State or for all rural areas in a State to analyze bed supply per elderly at the State level. In other instances, factors corresponding to a given level were used at a more refined level under consideration. For example, certain State-level characteristics, such as reimbursement rates, were used to assess factors that influence participation in the swing-bed program at the hospital level.

C. DATA

A number of data sources were used in the study. While no attempt is made here to discuss all data sources, several of the more important samples and data sources are summarized below.[2]

1. Primary Data Surveys

Approximately 20 different types of surveys were administered by phone, mail, or on-site over the course of the study. These involved surveys of swing-bed hospital administrators, State Medicaid agencies, Medicaid fiscal agents, State planning agencies, certification agencies, nursing home administrators, home health agencies, swing-bed physicians, other swing-bed staff, comparison hospital physicians, swing-bed hospital directors of nursing, nursing home directors of nursing, Medicare Part B carriers, Medicare Part A intermediaries, and State hospital associations.

2. Secondary Data

A number of different data sets provided by various governmental and nongovernmental organizations were also used. These consisted of such data sets as AHA survey tapes, the area resource file, Medicare enrollee data, the Medicare Provider of Services file, Medicare hospital claims data, and Medicare SNF claims data. Also, at 6-month intervals throughout the course of the study, the survey and certification branches of HCFA regional offices were contacted in order to obtain the number of swing-bed hospitals by State.

The above data sources were used largely for conducting more descriptive analyses of participation in, use of, and administration of the swing-bed program. The primary data were also used to collect less structured information related to why and how certain regulatory, utilization, administrative, fiscal, and patient care practices were followed. This information was used in interpreting the findings from the quantitative analyses.

From the perspective of more comprehensive empirical research, the following data sources contributed most significantly to the results presented here.

1. Medicare Cost Reports

Medicare cost reports were obtained for 1982 and 1984 for 75 swing-bed hospitals and 75 comparison hospitals in 27 States. These were used to analyze routine and ancillary service cost and revenue data for swing-bed hospitals relative to comparison hospitals.

2. Patient-Level Samples

Three patient-level samples contributed to the analyses conducted for this report:[3]

a. Case Mix Random Sample: This sample consisted of 1,092 patients, 540 swing-bed patients and 552 nursing home patients, randomly selected from swing-bed hospitals and from nursing homes for the purpose of comparing swing-bed case mix with nursing home case mix. (The nursing homes were selected from communities similar to swing-bed communities.) Data collected included demographic information, activities of daily living (ADL) and instrumental activities of daily living (IADL), diagnoses, and health status indicators for 24 long-term care problems. In all, 33 swing-bed hospitals in 12 States and 40 nursing homes in 10 States contributed to this sample.

b. In-Facility Stratified Sample: In order to measure use of certain types of services and length of stay until discharge to independent living, four specific types of swing-bed and nursing home patients were selected at admission and followed weekly for a period of 6 weeks or until discharge, whichever occurred first. As discussed further in Chapter V, certain tracer indicators of resource consumption and process quality were collected for these patients. The four groups or cohorts consisted of patients with problems in one or more of the following areas: stroke, hip fracture, urinary incontinence, or confusion. The in-facility stratified sample consisted of 426 patients, including 211 swing-bed patients and 215 nursing home patients. A total of 33 swing-bed hospitals in 14 States and 41 nursing homes in 15 States contributed patients to the in-facility stratified sample.

c. Discharge Status Random Sample: This sample of 652 patients included 242 swing-bed patients and 410 nursing home patients, randomly selected at time of discharge from the facility. It was designed to yield swing-bed and nursing home discharge profiles including mortality, functional abilities, and location to which the patient was discharged or transferred. Seventeen swing-bed hospitals and 24 nursing homes in the same six states contributed to the sample.

D. ANALYSIS APPROACH

Analyses were divided into four broad categories:

1. Participation and utilization;
2. Case mix and access;
3. Service use and quality of care; and
4. Cost and reimbursement.

The findings corresponding to each category are summarized in the following four chapters, respectively. The following discussion highlights and summarizes the various approaches and methods taken on the study as a whole. In some instances they pertain to specific chapters, and in others, such as with comments on statistical methods, they pertain to all four chapters.

As stated, the major study results and conclusions rely on primary data or Medicare cost report data, although a reasonable number of other secondary data sources were also used. Equally important, over 60 swing-bed hospitals and over 60 community nursing homes were site visit ed during the course of the study. The site visits often entailed conversations (that were subsequently documented) with hospital administrators, physicians, nurses, and trustees. The visits frequently involved conversations with representatives from community nursing homes, home health agencies, other hospitals, and community representatives. Patients and patient care were often observed.

In addition, a number of site visits involved discussing swing-bed issues with State-level regulatory agencies, Medicaid program officials, regional office personnel, Medicare carriers and intermediaries, State hospital associations, and State nursing home associations. National, regional, and local workshops and conferences on swing-bed care were at tended. A wide range of literature, documentation, and printed materials on the swing-bed program and approach was acquired (and reviewed) from a variety of sources, including government agencies, provider organizations, the research and policy literature, and individual providers of swing-bed care and long-term care. In all, in order to complement the reliance on empirical evidence, an operational familiarity with the swing-bed approach at the patient, provider, community, State, regional, and national levels was emphasized. The conclusions drawn are therefore based largely on empirical evidence, but rest on a pragmatic familiarity with swing-bed care and associated policy issues as well.

In conducting the empirical analyses, exclusive reliance on a single result or a finding based on but a few variables or items was avoided. For example, two or three methods were used in estimating the incremental cost of swing-bed care in order to assess whether present reimbursement rates cover incremental cost. Despite the fact that many hospital personnel believe the present reimbursement rates are inadequate, a concerted effort was made to objectively assess the incremental cost of swing-bed care using different approaches and assumptions. These methods included adjusting for or taking into consideration the volume of swing-bed care, on the assumption that incremental costs might increase as the volume of swing-bed care provided in a given hospital increased.

Analogously, patient-level results typically involved stratifying samples in several different ways before a conclusion could be reached. Profiles or groups of variables or patient status indicators were usually used to draw inferences. If an inference based on one or two patient status indicators could not be verified through other indicators, or through other data sets, it was not regarded as strong enough to include in this presentation.

Although some of the results presented in this report pertain to entire samples and are not adjusted for case mix differences, analyses of subsamples and case mix-adjusted estimates were almost always under taken to be certain a particular pattern was apparent in other similar patient samples or subsamples. For example, although case mix profiles for the entire case mix random sample of nursing home patients and swing-bed patients are presented, the results were further substantiated by restricting the case mix analyses to SNF patients only, intermediate care facility (ICF) patients only, and Medicare patients only. Process quality scores are given without case mix adjustments in this report, although the results of case mix adjustments and how they influence the process quality scores are summarized. The methods for constructing process quality scores are also explained in more detail elsewhere (Shaughnessy, Breed, Landes, 1982). In this regard, it is possible to apply different weighting schemes to individual services in assessing process quality. Although only one set of results is tabulated, the conclusions are based on analyses using different weighting schemes. Thus, the main conclusions and inferences are based on the totality of such analyses, not on a single analysis or an unadjusted analysis.

Most statistical methods used in this report involved two-group comparisons. In many instances, univariate statistics were compared using either parametric or nonparametric two-sample tests.[4] Multivariate procedures were used to adjust the results of the two-sample tests for covariates where appropriate.[5] Significance levels for individual tests were not adjusted for simultaneous statistical testing. That is, in some instances, tables are presented that involve 10 or 20 variables, where the significance levels associated with certain differences would be increased in the direction of less significance if certain statistical procedures were used to adjust for potential spurious significance.[6] While the vast majority of statistical differences on which major inferences are based are significant at the .05 or .01 level, differences with p-values up to .10 are presented because they augment and shed further light on general trends and tendencies exhibited by variables significant at more extreme levels.[7]

CHAPTER II NOTES

1 Additional material on the original study design can be found in Shaughnessy, Schlenker, Yslas (1983).

2 Details on each data source are contained in earlier study reports. For example, see Shaughnessy (1985). In addition to the main data sources listed, a primary data set from another HCFA study conducted by this research center was also used to compare case mix for swing-bed patients and home health patients. This is discussed further in Chapter IV.

3 Data for these samples were collected using on-site primary data collection methods. Past experience of the research team has shown that the use of secondary patient-level data, such as claims data, etc., are not sufficiently accurate or comprehensive to conduct the analyses with the requisite precision called for by this study.

4 Tests entailed chi-square, Fisher exact, or Wilcoxon procedures. In some instances, goodness-of-fit tests, chiefly the Kolmogorov-Smirnov tests were used to assess whether the underlying probability distribution was normal.

5 These procedures typically involved logistic regression, ordinary least squares regression, and Cox model survival analytic methods.

6 Procedures that involve the construction of simultaneous confidence intervals or that use various types of Bonferroni statistics can be employed for this purpose. The investigators have done this in the past, only to note that the procedures generally tend to uniformly increase p-values, but not change the pattern of significance of individual results relative to one another.

7 The simultaneity problem of statistical inference should, of course, be borne in mind. Specifically, when using univariate tests to test for differences between two (or more) groups on a multivariate profile or vector of variables, the likelihood of spurious significance for at least one variable (or more) increases as a function of the number of variables analyzed. This is important, especially when final conclusion and implications are largely based on one or two variables from the profile. It is less important, however, when conclusions are based on general trends exhibited throughout the total profile of variables, as is the case in this study.

CHAPTER III

PARTICIPATION AND UTILIZATION

A. INTRODUCTION

The findings presented in this chapter involve trends in hospital participation in the swing-bed program, utilization of swing beds, and factors related to both participation and use. The emphasis is on empirical results, although interpretations are provided and inferences are drawn to facilitate an understanding of the findings where appropriate. Chapter VII includes the broader inferences and policy options based on integrating the findings from this chapter and the three subsequent chapters. Prior to summarizing the more important participation and utilization findings, a discussion of the criteria used to determine eligibility is presented.

In further clarifying the swing-bed provisions contained in Section 904 of the Omnibus Reconciliation Act of 1980, the July 20, 1982 regulations dealt more specifically with eligibility. They stated that, "Under these provisions, a small, rural hospital (defined in the law as one with fewer than 50 beds) may be reimbursed under the appropriate program for furnishing SNF services to Medicare or Medicaid beneficiaries, and ICF services to Medicaid beneficiaries. In order to qualify (as a swing-bed hospital), the hospital must be granted a certificate of need (CON) for the provision of SNF and ICF services from the State Health Planning and Development Agency for the State in which the hospital is located, and must have an agreement with the Department (of Health and Human Services)." (47 Federal Register 31518-31519 (1982).)

In this context, a hospital is defined as rural if the geographic area in which it is located is not designated as urban according to the most recent census. In particular, this definition or rural encompasses nonurbanized area according to the Bureau of the Census. A nonurbanized area is an area not included in a central city or surrounding closely-settled territory of 50,000 or more inhabitants. This rural definition was chosen in part because it allows more hospital the opportunity to participate as swing-bed facilities.

The requirement for CON was defined in the regulations to apply only in States where CON covered the expansion of long-term care units. Specifically, the Federal swing-bed regulations stated that, "(I)f a State allows expansion of long-term care units without requiring a certificate of need for these services and hospitals, this criterion will not apply." (47 Federal Register at 31519.) Since a number of States do not require certificates of need for hospitals to convert beds to long-term care beds, the CON requirement pertains only in some States.

The regulations further indicated that the legislation did not specify precisely how hospital beds were to be counted. They went on to state that the method would therefore include "all inpatient hospital beds maintained by the hospital, exclusive of beds for newborns and beds in intensive care inpatient units." (Id.) Further, "while the statute and congressional reports are not specific on this count, we believe the congressional intent of this provision was to have as many hospitals as possible become eligible for swing-bed approval."(Id.) The final method for determining eligibility on the basis of bed size was specified in the regulations of July 20, 1982. The number of beds used in determining eligibility presently hospital beds, exclusive of (1) newborn beds, (2) beds in intensive care units, (3) bed in separately certified distinct-part SNFs and ICFs, and (4) beds not utilized or staffed on constant basis.

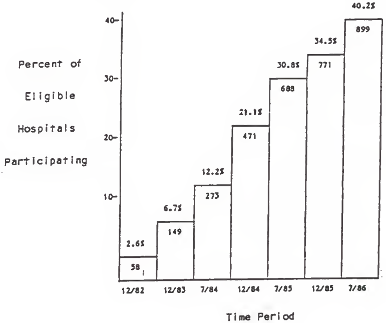
This latter exclusion of licensed beds not utilized or staffed on a constant basis appears to have been interpreted differently across Federal regions. In some regions, it appears this phrase is interpreted to mean simply the number of licensed or certified acute care beds exclusive of newborn and special care unit beds. In others, it is interpreted to mean the effective number of beds used by the hospital, so that an 80 bed hospital with 50% occupancy rate in the preceding year has an effective bed count of 40 beds, and is therefore eligible to participate in the swing-bed program. This latter interpretation now appears to prevail.

B. FINDINGS

1. Hospital Participation in the Swing-Bed Program

The growth in the number of certified swing-bed hospitals between December 1982 and July 1986 is depicted in Figure III.1. At the end of 1982, only 58 hospitals were participating in the national program, an amount that roughly tripled by the end of 1983 to 140 hospitals. Nonetheless, of these 149 hospitals, 101 had prior

FIGURE III.1: Number[a] and Percent of the 2236 Eligible Swing-Bed Hospitals Participating in the Swing-Bed Program from 1982 through 1986.



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[a] Each bar contains the number of swing-bed hospitals participating in the swing-bed program for the indicated time period.

experience as HCFA demonstration hospitals in the 1970s or were part of the RWJF grant program. By the summer of 1986, however, the number of certified hospitals had increased 503% (from 1983) to 899 hospitals. These figures pertain only to certified hospitals and include some that do not provide swing-bed care despite being certified as swing-bed hospitals. Utilizations surveys conducted as part of the study, however, indicate that approximately 97% of all certified hospitals provide swing-bed care.

In addition to the number of certified hospitals, Figure III.1 also presents the participation rate for each time period. This is based on the determination that 2,236 hospitals were eligible to participate in the swing-bed program in 1984. The Bureau of the Census definition of rural communities was used in selecting hospitals, and the bed limit was determined in the manner described in Section A. That is, a hospital was considered eligible if it had fewer than 50 "effective" beds. This number was determined by applying the 1984 occupancy rate to the number of inpatient beds, exclusive of beds for newborns, beds in intensive care units, and long-term care beds. The participation rates range from 2.6% of eligible hospitals at the end of 1982 to 40.2% by mid-1986. The growth rate still does not appear to be leveling off, and it is difficult to forecast the extent to which it might continue in the manner shown in Figure III.1 over the next few years. As will be discussed shortly, however, hospitals that have more recently joined the swing-bed program tend to have higher acute care occupancy rates than those who joined initially. It is possible, therefore, that the incentives to join the program are less for the hospitals currently not participating, at least from the viewpoint of being under occupied or having as many empty beds as those who joined earlier. The hospitals joining the program most recently also do not presently provide as much swing-bed care as hospital that joined the program earlier.[1] This may point to a curtailment of the growth rate in the future, but it must be considered in the context of the rather steady decrease in acute care occupancy, partly due to PPS, that is taking place throughout the country.

The relatively constrained growth in the number of swing-bed hospitals between 1982 and the end of 1983 appears due to the reasons discussed earlier. These include the negative effects of TEFRA in 1982 on hospital incentives to innovate, the delay in promulgating the regulations until July 1982, and the implementation of PPS in the Social Security Amendments of March 1983. Thereafter, the potential value of the swing-bed approach in response to PPS and in view of the information dissemination programs sponsored by RWJF and AHA (discussed in Chapter II), appears to have served as a catalyst to a steady increase in new hospitals participating in the swing-bed program.

Figure III.2 shows the geographic distribution, by State, of swing-bed hospitals in the United States in July 1986. The prevalence of swing beds in the midwest is apparent. The large rural land areas that characterize such States are generally accompanied by a larger proportion of small rural hospitals than is the case in other States, midwestern participation is even clearer in Figure III.3, which depicts participation rates by State. For this figure, State-level participation rates were calculated as the ratio of certified swing-bed hospitals over eligible swing-bed hospitals. It is noteworthy that the four States in which the original HCFA demonstrations took place--Utah, Iowa, Texas, and South Dakota--are among

FIGURE III.2: Distribution of Swing-Bed Hospitals in the United States in July 1986.

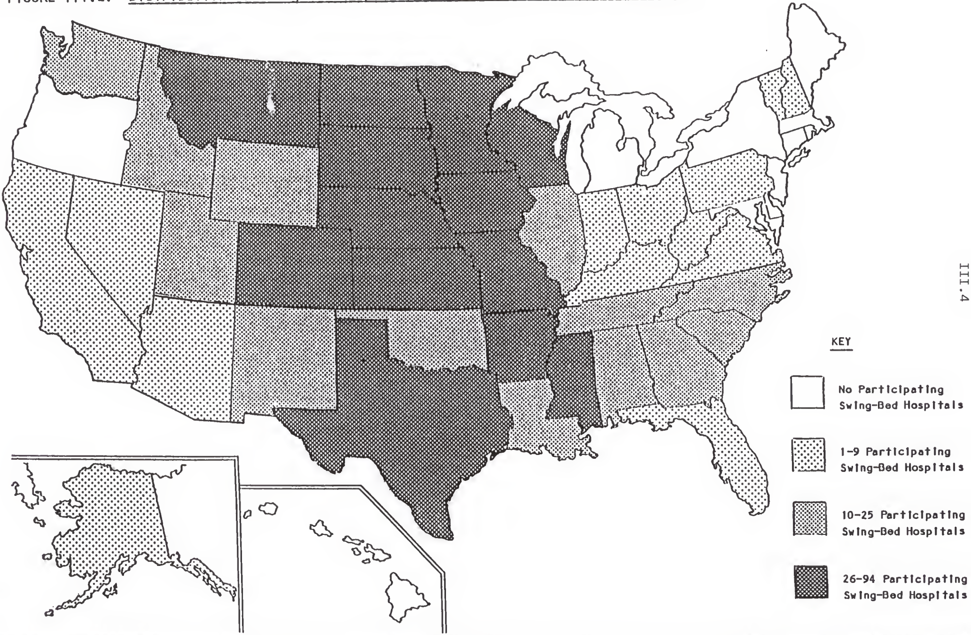
KEY
No Participating Swing-Bed Hospitals
1-9 Participating Swing-Bed Hospitals
10-25 Participating Swing-Bed Hospitals
26-94 Participating Swing-Bed Hospitals

FIGURE III.3: Participation Rates of Swing-Bed Hospitals in the United States in July 1986.

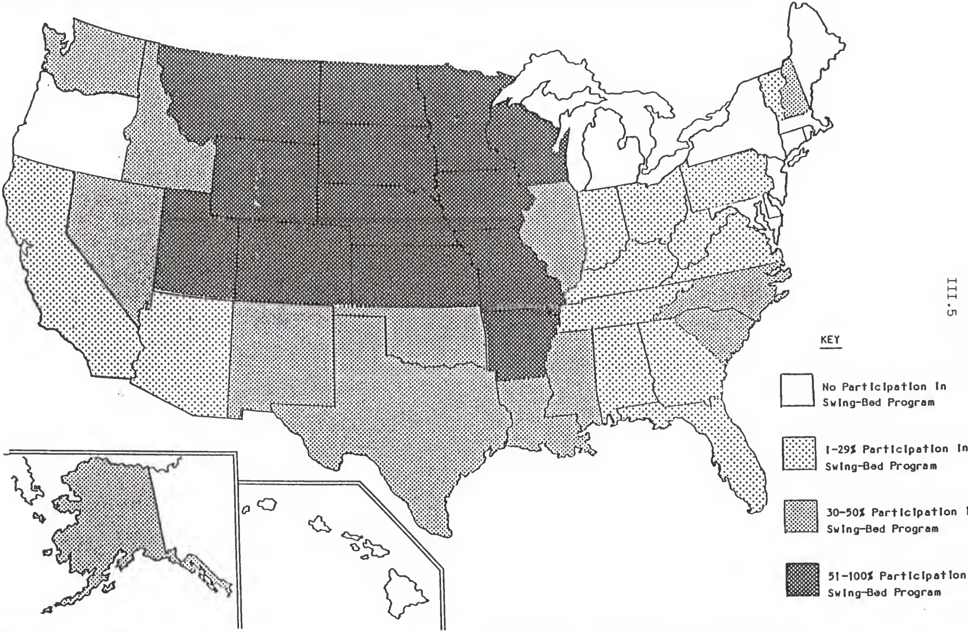
KEY
No Participation In Swing-Bed Program
1-29% Participation In Swing-Bed Program
30-50% Participation Swing-Bed Program
51-100% Participation Swing-Bed Program

TABLE III.1: Counts of Eligible and Certified Swing-Bed Hospitals by Region.[a,b]

Federal Regions	Certified[c] Swing-Bed Hosps. July 1986	No. of Elig. Hosps. 1984	No. of Rural Hosps. With < 75 Effective Beds	No. of Rural Hosps. With < 100 Effective Beds	No. of Rural Hosps.	Counties Without Elig. Hosps. Having Hosps. With >50 Effective Beds[d]
Region I: CT, ME, MA, NH, RI, VT	9	65	82	90	113	15
Region II: NJ, NY	0	32	57	73	116	39
Region III: DE, DC, MD, PA, VA, WV	5	60	103	140	205	85
Region IV: AL, FL, GA, KY, MS, NC, SC, TN	104	399	502	559	659	165
Region V: IL, IN, MI, MN, OH, WI	160	409	497	534	598	110
Region VI: AR, LA, NM, OK, TX	155	414	464	502	540	63
Region VII: IA, KS, MO, NE	272	342	372	390	414	29
Region VIII: CO, MT, ND, SD, UT, WY	138	233	247	251	257	14
Region IX: AZ, CA, HI, NV	21	146	172	182	193	5
Region X: AK, ID, OR, WA	35	136	148	155	164	13
TOTAL	899	2236	2644	2876	3259	538

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[a] To participate as a swing-bed hospital a hospital must have fewer than 50 inpatient hospital beds. The count of beds includes all inpatient hospital beds, exclusive of beds for newborns and beds in intensive care inpatient units. Licensed beds not utilized or staffed on a constant rather than fluctuating basis need not be included in the swing-bed calculation. Any geographic area not designated as "urban" in the most recent census is considered "rural" for the purpose of the regulations. This rural definition was chosen in part because it allows more hospitals the opportunity to participate as swing-bed facilities (See Federal Register, Vol. 47, No. 139, July 20, 1982, p. 31519; DHHS, HCFA, Memorandum to the Associate Regional Administrator, Division of Health Standards and Quality, Region VII, Baltimore, MD, Acting Director, Office of Survey and Certification, March 11, 1983).

[b] The number of beds is the number of effective beds, as determined in certain federal regions. This number was obtained for each rural hospital by multiplying the acute occupancy rate by the number of nonspecial care unit acute beds in 1984, using data from the 1984 American Hospital Association Survey.

[c] Certification requirements are discussed in Chapter V.

[d] In fact, 39 of the 899 hospitals participating in July 1986 had at least 50 effective beds using the method described above. These hospitals were apparently deemed eligible at the State or regional level either by virtue of another definition of eligibility in that particular location, or by using data from some year other than 1984. For purposes of determining the counts in the last column, such hospitals were considered eligible (they also contribute to the counts in the first column). The final column therefore contains the number of counties without eligible or participating hospitals, but with one or more hospitals with 50 or more effective beds.

the higher participating States, both in terms of he number of swing-bed hospitals and the State participation rate in the program. Analogously, the five States in which the RWJF grant program is underway--New Mexico, North Dakota, Kansas, Missouri, and Mississippi--are also among the States that participate more strongly in the program.

Depicted in Figure III.3 is a somewhat concentric geographic pattern surrounding the strongly participating midwestern States. Three northeastern States--Rhode Island, New Jersey, and Delaware--have no eligible hospitals and therefore cannot participate in the program. Nonetheless, the relative paucity of swing-bed hospitals in the northeast is apparent and due largely to the small proportion of eligible hospitals in the northeastern States. In addition, certain States, including the New York, Michigan, and Oregon, have thus far prohibited hospital swing beds either because of moratoria on long-term care beds or concerns about increased Medicaid costs. Medicaid participates as a payer in 22 of the 39 participating States. The States with higher participation rates generally are characterized by Medicaid participation as well, although a few exceptions exist to the pattern of Medicaid participation in States with relatively large numbers of swing-bed hospitals.

The numbers of certified and eligible hospitals by Federal region are given in Table III.1. The higher prevalences of both certified and eligible hospitals in the midwest, and the paucity of eligible and certified hospitals in the northeast are evident from this table. Although the participation rate in the southeast is somewhat lower than in the Midwest, Table III.1 also shows that the southeast contains a relatively large number of eligible hospitals.

If the eligibility for the swing-bed program were expanded to include larger hospitals in rural areas, the increases in numbers of hospitals associated with a 75 bed limit, a 100 bed limit, and no limit are shown in the third through fifth columns of Table III.1. Increasing the limit to 75 beds would increase the number of eligible hospitals by 408 hospitals. An expansion to a 100 bed limit would increase the eligible hospitals by 640 hospitals. The removal of a bed size limit for rural hospitals would increase eligibility by about 1,023 hospitals.

The final column in Table III.1 presents the number of rural counties that have no eligible hospitals at the present time, but have at least one hospital with 50 or more effective beds. If the smallest hospital from each such county were eligible to participate in the swing-bed program, this would increase eligibility by 538 hospitals. Such an approach would focus on individual rural communities that are currently not served by swing beds, but have the hospital capacity to be served. However, such an approach would also be administratively cumbersome, so that simply raising the bed limit might be the most effective approach. Further discussion on the strengths and weaknesses associated with expanding the swing-bed program is in Chapter VII.

2. Factors Related to Participation

Some of the more important factors related to hospital participation in the swing-bed program are presented in Table III.2. The table has two sets of factors,

TABLE III.2: Key Factors Related to Participation In the Swing-Bed Program.[a]

State-Level Factors[b]	Means for Nonparticipating States with No Swing-Bed Hospitals but with Eligible Hospitals In 1986 (N=9)	Means for Participating States with Certified Swing-bed Hospitals In 1986 (N=38)
Number of Eligible Hospitals, 1984	27	53
Percent of All Hospitals Eligible, 1984	28%	48%
Average Rural Hospital Occupancy, 1984[c,d]	49%	41%
Rural Physicians per 1000 Elderly, 1980[d]	9.7	7.3
Swing-bed/Average Medicaid SNF Per Day Rate, 1986	$63	$51
Swing-bed/Average Medicaid ICF Per Day Rate, 1986	$47	$38

Hospital-Level Factors[b]	Means for Eligible but Nonparticipating Hospitals (N=1408)	Means for Participating Hospitals (N=899)
Acute Care Occupancy Rate, 1984[c]	48%	39%
Acute Care Beds, 1984	48	37
Medicaid Participation, 1986	38%	62%
Physicians per 1000 Elderly in County, 1980	6.4	4.8
Medicare SNF Beds per 1000 Elderly, 1980	7.0	4.5
Percent of Population 65 or Older, 1984	13.8%	15.6%

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[a] All differences significant at $p < .05$ for State-level factors and $p < .001$ for hospital level factors.

[b] The number of elderly is estimated by the number of Medicare enrollees 65 years and older.

[c] Mean State- and hospital-level average occupancy rates differ because the calculation of State-level average occupancy is restricted to hospitals exclusively in the 9 or 38 States taken as two separate groups, whereas nonparticipating hospitals from the 38 States contributed to the mean for the 1,408 nonparticipating hospitals for the hospital-level mean.

[d] The State-level physicians per elderly variable and the average rural hospital occupancy variable pertain to non-SMSA counties. In contrast to the preceding State-level variables based on the Bureau of the Census definition of rural.

with the first pertaining to State characteristics that are different between participating and nonparticipating States. For purposes of this table, a participating State is defined as a State that has certified swing-bed hospitals, and a nonparticipating State is one with eligible swing-bed hospitals, none of which are certified. This definition of participation excluded New Jersey, Rhode Island, and Delaware, since these States have no eligible hospitals.

The first two entries under State-level factors further confirm the findings just discussed that nonparticipating States have fewer eligible hospitals and a smaller percentage of all hospitals that are eligible on average. The fact that the statewide occupancy rate for hospitals in rural areas is lower in participating than nonparticipating States further confirms and extends an earlier finding from the evaluation of the demonstration programs. The early results showed that more hospitals with lower occupancy rates tended to participate in the program than did hospitals that were more fully occupied, largely with the intention of meeting community long-term care needs through the use of their empty hospital beds. Although based on 1980 data, the difference between participating and nonparticipating States in the number of rural physicians per (1,000) elderly is substantial. It is not clear if this is related to a substitution effect of institutional long-term care for physician care, which seems somewhat unlikely. It is clear, however, that the nonparticipating States, which have fewer rural areas in general, typically have more physicians and more Medicare SNF beds. This association between Medicare SNF beds and physicians per elderly, probably explains the inverse relationship between participation and physicians per elderly.

While further discussion of the nature of swing-bed reimbursement is contained in Chapter VI, the differences in reimbursement rates for participating and nonparticipating States are meaningful. Medicaid reimburses for SNF and ICF swing-bed care on the basis of its average nursing home reimbursement rates for the preceding year. It is apparent from Table III.2 that the nonparticipating States are characterized by higher Medicaid reimbursement for nursing homes. This reflects primarily the higher average Medicaid nursing home reimbursement rates in the northeast. It also suggests that State Medicaid programs and regulatory agencies in those States that pay more for long-term care are interested in curtailing the increase in long-term care beds to the point of prohibiting swing beds. This inference has been further confirmed through discussions with Medicaid program officials in several nonparticipating States.

Key hospital-level factors associated with participation in the swing-bed program are provided in the second part of Table III.2. The occupancy rate findings observed at the State level were further confirmed at the hospital level, with participating hospitals having occupancy rates averaging nine percentage points lower than nonparticipating hospitals. Participating hospitals also have 11 fewer acute care beds on average. Approximately one and one-half times as many participating hospitals as nonparticipating hospitals are from States where Medicaid programs reimburse for swing-bed care.

The State-level result suggesting fewer physicians per 1,000 elderly in swing-bed communities is further confirmed at the hospital level. Unlike the State-level analyses that entailed averages for all rural areas, the hospital-level analyses involved only counties in which eligible swing-bed hospitals were located.

Consequently, from comparing clear that eligible swing-bed hospitals are generally found in rural communities with fewer physicians per elderly than is the case for other participating communities are characterized by fewer Medicare SNF beds per elderly and a larger percent elderly population. These results suggest a greater community need for Medicare SNF care in the participating communites. By way of comparison, the number of Medicare SNF beds per elderly in 1980 throughout the United States was 11.1 per 1,000, approximately twice as high as the 4.5 per 1,000 rate found in swing-bed communities (Schieber, Wiener, Liu, Doty, 1986).[2]

Analyses of hospital-level factors were also undertaken to compare swing-bed hospitals entering the program before or during 1984 with those certified after 1984. Hospitals that joined the program earlier generally tended to be smaller, have lower acute care occupancy rates, have a larger percentage of elderly in their communities, have fewer physicians per elderly in their communities, and have more long-term care experience reflected by the presence of a hospital-based nursing home. Thus, swing-bed hospitals joining the program later generally appear to be slightly larger, have slightly higher occupancy rates (although their average occupancy is only 42%), and have less long-term care experience. In general, this suggests that the hospitals that joined the program earliest had the strongest community needs, had a higher proportion of empty beds, and possibly had more serious financial problems. They also were more likely to have had prior long-term care experience, which when combined with the above circumstances, provided the experience and stronger incentives to innovate through a new approach to long-term care.[3]

The major reasons why hospitals administrator chose to join the swing-bed program are given in Table III.3. Site visit information has shown these are the reasons administrators have arrived at through dialogue with members of their respective communities, boards of trustees, medical staff, and nursing staff in the process of deciding whether to participated in the swing-bed program. For comparative purposes, the table presents the reason given by hospital administrators in 1984 with those given by another group of administrators whose hospitals were participating in the 1978 HCFA swing-bed demonstrations. Despite major differences between 1978 and 1984 in the health system environment, administrators generally gave the same reasons for participating in the national program as for the demonstration program. The same reasons were cited most frequently by both sets of administrators, with the exception of the two topics that were covered in 1984 but not in 1978. In both periods, the desire to increase hospital revenue, although important to the majority of hospitals, was not as important as the desire to meet community long-term care needs. This is a fairly persistent theme across all swing-bed providers. As is noted in the next section and in Chapter VI, the swing-bed approach does not result in an opportunity to fill certain gaps in a rural community's long-term care delivery system and enhance the continuity of care for patients, and at the same time make more efficient use of the resources available in rural hospitals.

TABLE III.3: Hospital Administrators' Reasons for Joining the Swing-bed Program.[a]

Why Hospital Administrators Chose to Join the Swing-Bed Program	1984 Program Hospitals (%)	1978 Demonstration Hospitals (%)
To provide better continuity of care for patients	93	N/A[b]
To use staff more efficiently	91	83
To provide long-term alternatives in the community	84	92
To increase occupancy	84	92
To use space more efficiently	80	91
To increase hospital revenue	73	68
Positive experience with previous HCFA Swing-Bed Demonstration Program	64[c]	N/A[c]

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[a] Based on a survey of a random sample of 55 swing-bed hospital administrators in 1984 and a survey of administrators of 71 swing-bed demonstration hospitals in Iowa, Texas, and South Dakota in 1978.

[b] Continuity of care was not given as a specific option in the survey in 1978, although no administrators gave it as a reason in the open-ended option to the question.

[c] The experience with the prior HCFA demonstration was relevant only for the 1984 survey. The 64% associated with this reason is based on the response of 14 administrators whose hospitals were involved with the earlier HCFA swing-bed demonstrations.

3. Utilization and Supply of Swing Beds

Descriptive statistics for the average swing-bed hospital in 1985 are given in Table III.4. As mentioned earlier, 97% of certified swing-bed hospitals actually provide long-term care to patients in swing beds. The average hospital provided 964 days of swing-bed care in 1985, 40% of which were covered by Medicare, 8% by Medicaid, and 43% by other payers, nearly all of which was private pay. The overall average length of stay for a swing-bed patient is approximately 20 days, substantially less than the 491 day stay that characterizes nursing homes in rural swing-bed communities. The average Medicare stay for swing-bed patients is approximately 14 days, which appears to be between 50% and 67% of the average length of stay for Medicare SNF patients nationally.[4] Medicare swing-bed stays are also the shortest among all payer groups, as illustrated by the fraction of average stay is only 71% as long as the average stay). Private pay swing-bed patients have an average stay of about 30 days, substantially longer than the Medicare stay (with a fraction of average stay of 1.55). The involvement of Medicaid as a payer for swing-bed care is substantially less than either Medicare or private pay. The limited Medicaid experience to date indicates the average stay for Medicaid patients is about 48 days, considerably shorter than the national average stay of several hundred days for Medicaid patients, but linger than the average stay for other swing-bed payer groups (Medicaid's fraction of average stay is 2.48).

Medicare's 49% coverage rate for swing-bed days is substantially higher than its national coverage rate of less than 2% for nursing home care nationally,[5] and than its coverage rate of approximately 9% for nursing home care in swing-bed communities.[5] On the other hand, Medicaid pays for only a small proportion (8%) of swing-bed days. This is in sharp contrast to Medicaid's role as the dominant payer for nursing home care throughout the country, including rural nursing homes

TABLE III.4: Utilization Statistics for the Average Swing-Bed Hospital, 1985.[a]

Payer	Average Days	Average Admissions	Average Stay
All Payers	964	49.8	19.4
Medicare	472	34.4	13.7
Medicaid	77	1.6	48.1
Private Other	415	13.8	30.1

	% Days	% Admissions	Fraction of Average Stay
All Payers	100%	100%	1.00
Medicare	49	69.1	0.71
Medicaid	8	3.2	2.48
Private/Other	43	27.7	1.55

---

[a] Based on two separate utilization surveys of 162 and 167 swing-bed hospitals for 1985, Medicare cost reports for 75 swing-bed hospitals, patients samples from 33 swing-bed hospitals, and data collected by New York University for 26 swing-bed hospitals.

in swing-bed communities, where it covers 55% of nursing home days. The relatively low participation of Medicaid as a payer in the swing-bed program is one of the primary reasons for the short lengths of stay that characterize swing-bed care. Medicaid typically covers patients with chronic conditions, inadequate home support, and related problems that require long institutional stays. However, since Medicaid covers both SNF and ICF care in the majority of participating States, the relatively low percentage of Medicaid patients very likely reflects the preference of swing-bed hospitals to concentrate on shorter-stay, non-Medicaid patients whose needs are commensurate with hospital capacity to provide subacute care.

Further, the more intense ancillary service requirements of subacute long-care patients are not typically reimbursed by Medicaid. In instances where such services are needed for the elderly, they are usually reimbursed by Medicare. Therefore, for Medicaid patients who require ancillary services, reimbursement for routine and ancillary services is likely to come from two different sources (from Medicare for ancillary services and from Medicaid for routine care). With respect to Medicaid patients not requiring ancillary services, swing-bed hospitals are less likely to retain such patients, since they are usually longer-stay patients who belong in nursing homes.

Approximately 60% of all swing-bed days are SNF days. The vast majority of such days are covered by Medicare (which pays only for SNF care). This percentage of SNF days in swing-bed hospitals is substantially higher than the 37% of nursing home days in swing-ed communities classified as SNF days (using primary data from the case mix random sample described in Chapter II).

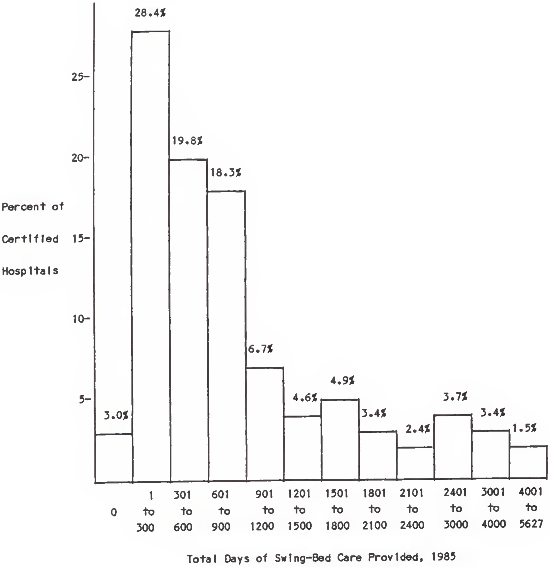
Figure III.4 shows the relatively skewed distribution of hospitals according to total days of swing-bed care in 1985. Approximately 70% of the certified hospitals provided fewer than 900 days of swing-bed care in 1985, while about 9% provided more than 2,400 days of swing-bed care. As is discussed further in Chapter VI, it is doubtful that the swing-bed reimbursement for most hospitals with more than 2,400 days are generating swing-bed revenues adequate to cover their costs. Such hospitals are likely to convert swing bed to permanent long-term care beds (i.e., distinct part nursing home beds) if such high utilization persists on a steady state basis. Anecdotal evidence indicates some conversion of this type have already taken place.

The unusually short stay that characterize most swing-bed patients reflect the philosophy that swing beds should be used for rehabilitation postacute and other short-stay long-term care patients. Some hospitals use swing beds as holding beds for long-term care patients until nursing home beds become available in their communities. In other instances, some swing-bed hospitals are characterized by considerably longer stays and in fact appear to provide more typical nursing home care in swing beds. This usually occurs in rural communities with a scarcity of nursing home beds.

There have been instances in which swing-bed hospitals have provided care to more traditional nursing home patients despite the presence of nursing home beds in their communities. In these isolated circumstances, the reasons for doing so appear to fall into two categories. First, the hospital staff, patients, or patients' families, have been concerned about the quality of care in the community nursing home. Second, hospitals retain such patients in swing beds because occupancy rates are low and revenues are needed. In either event, a relatively large number of site visits and phone conversations have confirmed that hospital swing beds come into direct competition with nursing home beds only in these relatively isolated instances. For the most part, they appear to complement each other, with the swing-bed hospitals retaining subacute long-term care patients that have medically intense needs until it is possible to discharge them either to an independent living environment (possibly with home health care) or to a nursing home if they need care for more chronic problems.

The number of acute care beds in any given hospital that may be certified as swing beds varies considerably from location to location. In several States, swing-bed certification or participation permits a hospital to "swing" all of its acute care beds. Practically speaking, this is never done since hospital staff are oriented primarily to acute care and, for the most part, prefer to provide acute care rather than long-term care. In other locations, a relatively small portion, such as 10% of the beds, is allocated to or permitted to be used as swing bed. Some hospitals set aside specific beds for use as swing beds, while others simply use an available acute bed when needed for a swing-bed patient. Consequently, the supply of swing beds varies considerably depending on the manner in which swing beds are counted. A relatively straightforward way to calculate the supply of swing beds is to allocate a hospital's acute bed count between acute care and swing-bed days. This method yields an estimate number of 5.7 swing beds per hospital in 1985. Applying this to the 872 certified hospitals that were estimated to use the swing-bed program in 1986 (i.e., 97% of 899) results in a total swing-bed supply of 4,970 swing beds in 1986.

FIGURE III.4: Percentage Distribution of Certified Hospitals by Total Days of Swing-Bed Care Provided, 1985.[a]



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[a] Based on two separate utilization surveys of 162 and 167 swing-bed hospitals, respectively, for 1985.

4. Factors Related Utilization and Administration

A total of 211 administrators of nursing homes (in or near swing-bed communities) were surveyed as part of the study. Of those responding to the question on nursing home use, 45% felt nursing home occupancy rates had decreased due to the availability of long-term care beds in swing-bed hospitals. However, this was based only on about one third of the administrators surveyed, since most of them did not answer this question. Of the approximately 100 respondents to the question of whether the financial condition of some nursing homes might be jeopardized due to the presence of swing-bed hospitals, 64% indicated that this was possible.

To investigate further the issue of whether swing-bed use influences nursing home occupancy, Minnesota and Wisconsin, two midwestern States with relatively large numbers of swing-bed hospitals in 1985, were studied. Although governmental agencies were contacted in several States with large numbers of swing-bed hospitals, only these two States had sufficiently precise and accurate data on the use of rural nursing homes to render a rigorous before/after analysis of the swing-bed approach.

For each State, nursing home occupancy rates in rural communities in 1982 were compared with the analogous occupancy rates in 1985. During 1982, neither State had any certified swing-bed hospitals, whereas during 1985 Minnesota had 82 and Wisconsin had 42 certified swing-bed hospitals. Considering all rural counties in Minnesota, the overall occupancy rate between 1982 and 1985 increases slightly from 96.1% to 96.6%. Further restricting the analysis to only those counties in which occupancy from 96.4% in 1982 to 96.9% in 1985. These increase were both statistically significant.[7] In Wisconsin, the occupancy rate for nursing homes in rural communities increased from 92.5% in 1982 to 96.6% in 1985. This change, unlike the change in Minnesota, was not statistically significant owing to a smaller sample size (i.e., there were fewer nursing homes in Wisconsin). Further restricting the analysis only to counties in which swing-bed hospitals were located in Wisconsin resulted in a decrease, which also was not statistically significant, from 93.3% in 1982 to 92.1% in 1985.

Hence, in Minnesota, even in swing-bed communities, a statistically significant increase in nursing home occupancy between 1982 and 1985 was found. In swing-bed communities in Wisconsin, however, no statistically significant change in nursing home occupancy was observed[8]. The fact that nursing homes were nearly fully occupied in Minnesota and not fully occupied in Wisconsin is very likely related to the difference in occupancy changes over time in the two States. Despite even more swing-bed hospitals in Minnesota than Wisconsin, nursing home occupancy rates continued to increase owing to what may be a shortage of nursing home beds in Minnesota. In Wisconsin, however, where nursing home beds are less fully occupied, the presence of swing beds nevertheless did not bring about a statistically significant decrease in nursing home occupancy. This reinforces the conclusion suggested by several different findings in the study that nursing homes generally serve a different market, corresponding to chronically ill long-term care patients, while the market served by swing-bed hospitals consists largely of subacute, shorter-term patients.

Since the Medicaid programs in neither Minnesota nor Wisconsin reimburse for swing-bed care, the above conclusion must be qualified by the fact that the dominant national payer for chronic long-term care does not reimburse for swing-bed care in either State. In order to further investigate the effect of Medicaid participation in this regard, additional nursing home occupancy data were obtained from Kansas (where Medicaid does participate in the swing-bed program), which had 78 swing-bed hospitals in July 1986. The statewide occupancy rates in Kansas nursing homes increased from 91.7% to 92.6% between 1982 and 1985. Since the vast majority of Kansas nursing homes are in rural areas, this suggests that swing-bed hospitals are unlikely to compete directly with nursing homes for swing-bed patients, even in States where Medicaid pays for both types of long-term care. Nonetheless, as mentioned in the preceding section, individual nursing home occupancy rates have dropped in isolated swing-bed communities, for reasons given earlier. Overall, however, it appears that competitive and/or substitution effects of the swing-bed program on nursing home use have been nonexistent to date.[9]

To some extent, the provision of swing-bed care may have deferred to expansion of existing nursing homes or the construction of new ones. This issue could not be analyzed in this study due to the long time periods involved in expansion/construction decisions and their implementation, and due to the multiplicity of factors involved (such as CON requirements). The possible cost implications of any such deferred expansion/construction are discussed in Chapter VI.

At the hospital level, staff resistance to the swing-bed program was often cited as a major start-up problem. Typically, the nursing staff prefers to care for acute care patients and is concerned that the hospital will become a "nursing home." As was the case in the demonstration program in the 1970s, this problem usually eases dramatically as the staff gains experience with the program. It is one of the reasons, however, why the vast majority of swing-bed hospitals are not likely to compete directly with nursing homes. Dissatisfaction with reimbursement was also viewed as a significant start-up and ongoing problem in the majority of swing-bed hospitals surveyed and site visited. The fact that reimbursement is premised on covering the incremental cost of long-term care, as discussed further in Chapter VI, is not a point that most hospital administrator or fiscal staff relate to or find satisfactory. Nevertheless, the proportion of hospital respondents citing disadvantages to the program was considerably less than the proportion reporting benefits. Generally, the problems and difficulties appear to decline in importance as hospitals gain experience with swing beds.

The research from the swing-bed demonstration in the 1970s found a strong negative correlation ($r = -.64$) between acute care occupancy and total swing-bed days of care provided in swing-bed hospitals. Based on the Medicare cost report data discussed in Chapter VI, the analogous correlation in 1984 was negative, as expected, but not as strong ($r = -.20$). Although both correlations are statistically significant, the reason for the substantial decrease in the association between acute care occupancy and swing-bed days is not clear. It may be partly due, however, to the fact that rural hospital occupancy rates have consistently declined over the past several years to the point where nearly all eligible hospitals have an adequate supply of empty beds to meet the total demand for acute care and swing-bed care in their respective communities.

From the viewpoint of overall program administration, the various Federal and State entities involved in the swing-bed program include HCFA regional offices, State certification agencies, State planning agencies, Medicare Part A intermediaries, Medicare Part B carriers, Medicaid fiscals agents, and PROs. All such agencies were surveyed, and survey data were augmented by site visits and case study information. Overall, few resources were required by these agencies to incorporate the swing-bed program into their operations. Most agencies shifted existing personnel to the swing-bed program with virtually no new personnel added. The estimated costs of personnel assigned to the swing-bed program were often negligible, but nearly always less than $5,000 per year per agency. Most agencies indicated few start-up or ongoing problems associated with administering the swing-bed programs. However, one of he more frequently mentioned problems involved misunderstanding of the regulations and program requirements by hospitals. Further, it appears that an increase in the dental rates for Medicare coverage of swing-bed care is now occurring in certain State. Such denials can involve either Medicare intermediaries or PROs and are expected to continue and be characterized by considerable diversity across the country until clearer guidelines distinguishing between acute care and swing-bed care patients (in general, long-term care patients) are promulgated.

C. SUMMARY OF FINDINGS

The more important findings from the analyses that concentrated on hospital participation in and utilization of the swing-bed approach are as follows:

1. An increase of 503% in the number of certified swing-bed hospitals, from 149 to 899, characterized the 30-month period from December 1983 through July 1986. Approximately 97% of all hospitals certified for the swing-bed program actually provide swing-bed care. The 899 swing-bed hospitals participating in the program in mid-1986 constituted 40% of the 2,236 hospitals eligible for the program.

2. Participation by hospitals in the swing-bed programs is characterized by a pronounced geographic pattern, with the strongest participation in terms of both numbers of hospitals and participation rates of eligible hospitals taking place in the midwestern States. This region is surrounded by a second area of moderate to high participation in the swing-bed program in the west, south, and southeast. The relative paucity of swing-bed hospitals in the northeast is largely attributable to the small proportion of eligible hospitals in that region of the country.

3. If the bed limit for eligibility were increased from 50 to 100 beds this would increase the number of eligible hospitals by 640. Totally removing this limit for rural hospitals would increase eligibility by 1,023 hospitals. Restricting expanded eligibility to the smallest hospital in rural counties that currently do not have an eligible swing-bed hospital would increase eligibility by 538 hospitals. (This last possibility would be more difficult to implement than would the alternative of increasing the bed limit.)

4. Factors related positively to participation in the swing-bed program and use of swing beds are low acute care occupancy, fewer physicians per 1,000 elderly in the community, fewer Medicare SNF beds per elderly in the community, and a larger percentage of the population 65 years and older. Hospitals joining the swing-bed program after 1984 tended to have slightly higher occupancy rates, be slightly larger, and have had less experience with distinct part nursing homes.

5. The desire to meet community long-term care needs was more frequently given as a reason for joining the swing-bed program than the desire to increase hospital revenues, both by hospitals participating in the current national program and by hospitals participating in the current national program and by those participating in the swing-bed demonstrations in the 1970's. However, the majority of hospitals still cited financial considerations as important in their decision to join the program. The swing-bed approach does not result in substantial increase in patient days or revenues. Rather it appears to afford an opportunity to fill certain gaps in a rural community's long-term care delivery system, enhance the continuity of patient care, and permit more efficient use of the resources available in rural hospitals.

6. The average swing-bed hospital provided 964 days of swing-bed care in 1985, 49% of which were covered by Medicare, 8% by Medicaid, and 43% by private

pay. The average length of stay for a swing-bed patient was approximately 20 days, while the average length of stay for a Medicare swing-bed patient was approximately 14 days. About 60% of all swing-bed days are SNF days.

7. Swing beds are often used as holding beds until long-term care patients are sufficiently rehabilitated to return home or until a nursing home bed becomes available in the community. Although about 9% of the swing-bed hospitals provided more than 2,400 days of swing-bed care in 1985, most used swing beds to provide less amounts of care to short-stay long-term care patients.

8. Although nursing home administrators and others have expressed concern that swing beds compete directly with nursing home beds, no evidence of decreases in nursing home occupancy rates was found. In fact, in one of the States with the largest number of swing-bed hospitals, an increase in nursing home occupancy rates occurred in swing-bed communities between 1982 and 1985.

CHAPTER III NOTES

[1] This may simply be due to lower utilization during an acclimation period, after which utilization will increase. Longitudinal utilization patterns for the earlier joining hospitals suggest this possibility.

[2] The rural SNF bed rates in Table III.1 may be slight underestimates, since adequate county identifiers were unavailable for some SNFs that were therefore not included. The number of SNFs excluded was extremely small, however. The bed rates in the statement referencing this footnote did not exclude such SNF beds.

[3] The various State-level and hospital-level factors discussed in this section were also examined through multivariate analyses including discriminant function and logistic regression. In general, the same factors were confirmed as importantly related to hospital participation in the swing-bed program.

[4] In 1980 the average stay for Medicare SNF admissions was 29 days (Schieber, Wiener, Liu, Doty, 1986). As part of the present study, rural Medicare SNF stays in 1984 were estimated to be 21 days.

[5] The proportion of nursing home expenditures covered by Medicare in 1985 was 1.7% (Waldo, Levit, Lazenby, 1986).

[6] It appears that when hospitals initially begin providing swing-bed care, Medicare is an even more dominant payer, covering approximately 80% of total days, although total days are substantially fewer within the first 6 to 12 months after initial certification. Thereafter, the number of total days increase and the percentage of Medicare patients days appears to decrease to about 50%.

[7] Although these analyses deal with the entire populations at a point in time, the populations are viewed here as samples across time.

[8] The difference was, in fact, extremely insignificant with $p > .50$.

[9] This result is further confirmed by a finding from the evaluations of the swing-bed demonstrations in the 1970s. South Dakota was selected as the State most likely to be characterized by decreased nursing home as the State most likely to be characterized by decreased nursing home occupancy in swing-bed communities, since (1) South Dakota hospitals averaged approximately 1,200 swing-bed days per year, (2) only 29% of total swing-bed days were for patients at the SNF level, and (3) Medicaid reimbursed for both SNF and ICF care. Despite these conditions, an increase in the average occupancy rate of nursing homes, from 95% to 97%, took place in swing-bed communities. This increase in occupancy rates occurred despite the addition of 41 new nursing home beds in project counties.

CHAPTER IV

CASE MIX AND ACCESS

A. INTRODUCTION

The results in the preceding chapter suggest, but do not clearly demonstrate, a case mix difference between swing-bed patients and nursing home patients. Yet, the issue of whether swing-bed hospitals care for long-term care patients whose needs are different from nursing home patients is critical. If patients receiving long-term care in swing beds have the same needs as nursing home patients in the community, the main questions regarding swing beds are whether they cost less than nursing homes and whether they are characterized by care of comparable quality to that provided in nursing homes. If, however, patients who typically receive long-term care in hospital swing beds are different from those in community nursing homes, the value of the swing-bed approach is enhanced, since such patients would very likely have to travel greater distances, possibly to metropolitan areas, to receive institutional long-term care. This is especially true if swing-bed patients tend to have more intense subacute and medical care needs.

In the previous chapter, general characteristics such as length of stay suggested that swing beds are more typically used to provide subacute or more medically intense long-term care than is found in community nursing homes. The purpose of the results presented in this chapter is to reinforce this important attribute of swing-bed care by presenting case mix similarities and differences between long-term care patients in rural hospital swing beds and nursing homes in the same types of communities. One of the objectives of the analyses conducted was to determine not only whether the subacute or medical care needs of swing-bed patients are more intense than nursing home patients, but, if possible, to quantify the difference in intensity. The quantification might in turn be useful in assessing the extent of resources consumed in caring for swing-bed patients (i.e., the costliness of care) relative to nursing home patients.

A comparison of home health case mix relative to swing-bed case mix was also conducted. As explained in the next section, the findings from the comparisons involving nursing home case mix suggested that the examination of similarities and differences between the health status of swing-bed patients and home health patients would be appropriate. The data used for the home health comparison were not from the same time period, nor from home health agencies in the same communities as the swing-bed hospitals analyzed. However, the findings are informative and provide a useful benchmark for the types of patients generally cared for by home health agencies relative to swing-bed hospitals.

Since the term case mix is not used uniformly in the health care literature, and since it is a critical construct in this study, it is appropriate to define it here. In general, case mix refers to a group of patients and is defined in terms of aggregated health status variables that are physiologically or psychologically intrinsic to the individual and determine or mitigate his/her health care needs. Variables such as age, sex, ability to dress one's self, degree of incontinence, cognitive impairment, and the presence of a surgical wound are health status variables that, when aggregated over a specified patient group, can be used to measure the case mix of the group. It is important to note that this definition does not include service mix, which refers to services the patient is receiving, supposedly in response to the health care needs of the individual. The presence of an indwelling catheter, a specific surgical procedure, or the provision of lab tests, constitute health services extrinsic to the individual and, when aggregated across patients, comprise the service mix of the patient group.[1]

In the context of evaluating swing-bed care, access and case mix are interrelated. An important access question deals with whether elderly long-term care patients in rural communities are more likely to receive care in their home community if swing beds are available than if they are not. This community retention question is examined here by comparing the proportion of institutional long-term care patients receiving care in their home community before and after the presence of swing beds and by comparing the distance traveled from home for swing-bed patients and community nursing home patients. In this regard, data from surveys of swing-bed physicians, swing-bed nurses, and nurses from community nursing homes are examined to determine the extent to which providers felt long-term care patients were treated more often in their home communities as a result of the swing-bed program.

To augment these findings, results from the earlier evaluation of the Utah demonstration are presented. These are based on Medicare SNF claims that were analyzed to examine the percentage of rural residents receiving SNF care in rural and urban communities before and after the implementation of the swing-bed approach in Utah. The Medicare SNF comparisons are relevant, however, only to the extent that one of the tenets of improved access specifies that access to subacute care, especially the type covered by the Medicare SNF benefit, is enhanced. If case mix analyses indicate that swing-bed hospitals tend to treat a subacute case mix more so than nursing homes, then the question of whether their efforts result in a significant increase in access to such care becomes relevant.

B. FINDINGS

Variables used in the comparisons of patient profiles are largely case mix variables that reflect the health status of individual patients. However, service mix and patient mix variables (see footnote 1), such as marital status, primary payer, and services received, are also included. Results for additional service mix variables are presented in Chapter V. The case mix variables were divided into prevalence indicators, severity indicators, indicators of primary or secondary diagnosis, disability and problem scales, and certain aggregate indicators. More complete descriptions of the variables and information on sampling and statistical methods is given elsewhere (Shaughnessy, Schlenker et al., 1985).

The major data set used to compare swing-bed and nursing home case mix was the case mix random sample described in Chapter II. Data collection involved cross-sectional random samples of long-term care patients in 33 rural swing-bed hospitals and 40 rural nursing homes during 1984 and 1985. Most nursing homes were within 50 miles of swing-bed hospitals, although a few were slightly more distant. It was deemed appropriate to select nursing homes from swing-bed communities or communities as similar as possible to swing-bed communities. The rationale for doing so rested with the need to select nursing homes with the same general supply, demand, and sociodemographic characteristics as those found in swing-bed communities. Staff opinions at nursing homes were obtained during site visits involving primary data collection. The overall impression was that the case mix of the community nursing homes had not changed as a result of the presence of hospital swing beds with in a 50-mile radius.

The swing-bed hospitals were from 12 States, and the nursing homes were from 10 of these 12 States. All swing-bed hospitals and most nursing homes were certified for SNF care. Some of the nursing homes cared only for ICF patients, but were selected because they were the only facilities in swing-bed communities or because there were relatively few SNF beds in the selected communities. If such ICFs had been excluded, it would have rendered invalid the comparison of the case mix in swing-bed hospitals to the case mix of nursing homes in swing-bed communities or similar rural communities.[2]

1. General Characteristics of Swing-Bed Patients Relative to Community Nursing Home Patients

Table IV.1 presents differences between swing-bed patients and nursing home patients for selected patient mix variables and for certain general case mix indicators. The difference in age between the two patient groups, although statistically significant, is irrelevant for practical purposes. As will be discussed later in this section, the average nursing home patient's residence was more than two times as far from the nursing home as the average swing-bed patient's residence was from the swing-bed hospital. A stronger support system for home care is suggested by the higher proportion of swing-bed patients who are married relative to nursing home patients.

tential of swing-bed patients was determined to be substantially better than the rehabilitation potential of nursing home patients. Over 50% of the swing-bed patients' rehabilitation potential was judged as good or moderate, with 25% judged as good. This contrasts substantially with 21% and 3%, respectively for nursing home patients. A much higher proportion of swing-bed patients had been in the facility for less than 30 days, 56% versus only 8% for nursing home patients.

As mentioned in the preceding chapter, a greater proportion of swing-bed patients was classified at the skilled nursing level of care (60% versus 37%). This variable is somewhat problemmatic in that it uses level of care as determined by the provider. Although the definition of SNF care varies from State to State and is even subject to discrepancies from facility to facility, the magnitude of the difference suggests a strong orientation toward skilled nursing care in swing-bed hospitals. The fact that the cross-sectional samples yielded more patients in swing-bed hospitals with stays less than 30 days and a substantially higher proportion of Medicare patients, confirm the length of stay and payer mix findings from other data sources that were discussed in the preceding chapter.

2. Swing-Bed Case Mix Relative to Community Nursing Home Case Mix

Case mix differences between swing-bed patients and nursing home patients for selected variables from the various categories mentioned previously are presented in Table IV.2.[3] The results presented in this table are representative of results for a considerably larger set of variables (over 200). They do not include either primary or secondary diagnoses, or the disability and problem scales from which the dichotomies for presence or absence of specific problems in the first three categories of the table were constructed. The entire pattern of results for all variables, however, is portrayed by the representative findings in Table IV.2. A few findings for variables not included in the table are highlighted in the discussion below. All statistically significant differences are discussed in an earlier report (Shaughnessy, Schlenker et al., 1985).

The fact that nursing home patients tend to be more functionally disabled is indicated by the first two categories of variables. These deal with the percentages of patients with disabilities in ADLs. They include traditional ADLs, such as bathing, dressing, and grooming, and instrumental ADLs (IADLs), such as communication and housekeeping. Indicators of severe disabilities in ADLs were also analyzed and followed the general patterns shown.

In terms of the traditional physical ADLs, there is a tendency for swing-bed patients to be less dependent than nursing home patients. This parallels prior studies comparing hospital-based nursing home patients with freestanding nursing home patients, where the general conclusion was reached that a more subacute case mix typically means less dependency in traditional ADLs (Shaughnessy, Kramer, Schlenker, Polesovsky, 1985). This finding is further reinforced by a uniform pattern of less dependence among swing-bed patients in IADLs, which usually require a greater integration of cognitive and physical functioning. Severe ADL disabilities are also less prevalent among swing-bed patients.

TABLE IV.2: Case Mix Profiles of Long-Term Care Patients in Swing-Bed Hospitals and Nursing Homes, 1984 and 1985.[a]

Case Mix Characteristics	Swing-Bed Hospital Patients[b]	Nursing Home Patients[b]
Percent with Disability in Activities of Daily Living (ADLs)		
Bathing	62.7%	69.1%**
Dressing	60.1	66.2**
Grooming	57.6	74.8
Percent with Disability in Instrumental Activities of Daily Living (IADLs)		
Communication	14.7%	25.2%
Finances	58.8	72.5
Housekeeping	71.4	79.5**
Laundry	75.6	83.7
Administering Medications	60.1	84.2
Preparing Meals	65.7	78.2
Telephone	30.8	42.4
Percent with Medical or Nursing Problems		
Shortness of Breath	20.5%	10.6%
Recovery from Surgery	13.2	3.4
Intravenous Catheter	6.3	0.6
Ostomy	2.9	1.1*
Recent Myocardial Infarction with Congestive Heart Failure	1.6	0.4*
Catheter	20.9	9.3
Hip Fracture in Last 6 Weeks	6.7	1.3
Stroke in Last 6 Months	7.3	2.7
End Stage Disease	9.0	1.8
Urinary Incontinence	34.0	48.1
Urinary Tract Infection	10.7	3.7
Bowel Incontinence	29.0	41.3
Mental Status Problems	40.3	58.9
Sociopathic Behavior	8.4	18.3
Wandering Behavior	6.9	10.6**
Aggregate Indicators (number per patient)		
Subacute Medical or Nursing Problems	1.2	0.7
Severe Subacute Medical or Nursing Problems	0.5	0.3
Typical Long-Term Care Problems	1.7	2.5
Intense Typical Long-Term Care Problems	0.9	1.6
Mean Case Mix Index		
Resource Utilization Group (RUG) Index[c]	1.2	1.0

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[a] Mean differences are significant at p<.001 unless asterisked: a double asterisk (**) implies significance between the .001 and .05 levels, while a single asterisk (*) implies significance between the .05 and .10 levels.

[b] Based on a sample of 552 patients in 33 swing-bed hospitals and 540 patients in 40 nursing homes.

[c] Based on an augmented sample of 596 swing-bed and 632 nursing home patients.

The third category of variables deals with the prevalence of medical and nursing problems. Patients in swing-bed hospitals had a greater prevalence of the more medically oriented problems, such as shortness of breath, recovery from surgery, intravenous catheters, and ostomies, than nursing home patients.[4] Although the percentage of patients who had a recent myocardial infarction with congestive heart failure was relatively low, such patients were found significantly more often in swing-bed hospitals than in nursing homes. The hip fracture and stroke variables both exhibit patterns in support of a higher proportion of patients with subacute needs in swing-bed hospitals. Specifically, greater proportions of hip fractures or strokes within the last 6 weeks or 6 months, respectively, were found among swing-bed patients. Also, although not shown in the table, lower proportions of patients with hip fractures more than 6 weeks ago or strokes more than 6 months ago characterized swing-bed patients relative to nursing home patients. The more typical long-term care case mix indicators that deal with incontinence, cognitive functioning, and psychosocial problems exhibit a reverse trend. Higher proportions of nursing home patients had these types of problems than did swing-bed patients.

A higher proportion of swing-bed patients had urinary tract infections than nursing home patients. Even among catheterized patients, the prevalence of urinary tract infections remained significantly greater in swing-bed hospitals. This may be due either to inferior care in the prevention of such infections, or a greater predisposition/susceptibility of certain types of swing-bed patients to these infections. For example, surgical patients and terminally ill patients, both of which are more prevalent in swing-bed hospitals, would have a greater susceptibility to such infections. Hospital patients in general are exposed to not only more bacteria, but to bacteria that are probably more foreign to the patient's body and therefore more pathogenic than bacteria encountered in a nursing home. Further, the manner in which the urinary tract infection variable is defined required that the condition be documented by urinalysis or culture within the last week. Considerably more lab tests were done for swing-bed patients than nursing home patients. Since lab tests are performed more frequently and sooner after symptoms develop in swing-bed hospitals, it is possible that infections are simply reported at a higher rate in swing-bed hospitals than in nursing homes, where more subclinical or low-grade infections may be neither tested nor treated.

The prevalence of severe medical or nursing problems, although not presented in Table IV.2, generally exhibited the same trend as the variables just discussed, with the exception that a slightly higher proportion of swing-bed patients exhibited depressive symptoms (14.4% versus 10.3%). This may be attributable to the reactive depression that occurs following sudden traumatic events such as stroke or surgery, both of which were significantly more frequent among swing-bed patients. Three categories of variables dealing with diagnoses--primary, secondary, and primary and secondary combined--tended to support the trends noted above. Diagnoses such as fracture, major surgery, and neoplasms occurred with higher relative frequency in swing-bed patients, while mental disorders, circulatory problems, and nervous system disorders occurred with greater relative frequency among nursing home patients.

Although not shown in the table, the primary or secondary diagnosis of stroke was more frequent among nursing home patients. In view of the long lengths of nursing home stays, such a diagnosis often refers to a stroke occurring considerably far in the past. This finding thus parallels the finding noted in the discussion of medical or nursing problems, which indicated that a substantially higher proportion of patients with strokes occurring more than 6 months ago were in nursing homes. In addition, it is possible that several of the patients with a primary or secondary diagnosis of circulatory problems were also stroke patients. In any event, the greater prevalence of circulatory problems among nursing home patients is probably due to past strokes or cerebrovascular or generalized arteriosclerosis.

As mentioned, three categories of variables were assigned scales: the ADL, IADL, and medical or nursing problems. They further substantiated the pattern of a more subacute profile for swing-bed patients. This was also true for the four aggregate indicators in Table IV.2. The first two indicate that the number of subacute problems, and the number of severe subacute medical or nursing problems, were significantly higher among swing-bed patients than nursing home patients. Conversely, the number of typical long-term care problems, both in terms of prevalence and for more intense levels, was greater for nursing home patients than swing-bed patients.[5]

The final variable presented in Table IV.2 is an overall case mix index based on, but not precisely the same as, the index used for Medicaid reimbursement for nursing homes in New York State. This index is premised on categorizing each patient into one of 16 unique resource utilization groups defined in terms of medical conditions and functional status (New York State Department of Health and Rensselaer Polytechnic Institute, 1984). The 16 groups were constructed by dividing patients first into the five clinical categories of special care, rehabilitation care, complex conditions, severe behavioral problems, and reduced physical functioning. Within each of these five categories, patients are further subdivided according to ADLs. The study data from the case mix random sample of nursing home and swing-bed patients permitted an approximation of this grouping algorithm, with the results shown in Table IV.2.[6]

The resulting index value is a reflection of staff resources consumed. The index, as originally constructed, was based on the nursing staff time needed for each of the 16 separate categories. The fact that the mean resource consumption indicator for swing-bed patients was slightly more than 20% higher than the mean for nursing home patients suggests that swing-bed patients are 20% more costly to care for than nursing home patients in terms of staff time required. This does not necessarily take into consideration, however, the use of certain types of ancillary services such as diagnostic services and x-rays as they are provided at the extreme end of the subacute case mix scale. Therefore, the 20% figure very likely represents a lower bound on the extent to which swing-bed patients are more costly to care for than nursing home patients. An analogous result was obtained using the resource consumption weights from a second case mix grouping algorithm developed for Medicare SNF patients that uses the same general classification scheme but expands it to 20 groups instead of 16 groups (Fries, Schneider, Foley, Dowling, 1986). The index used in this analysis employed the same 16 groups as the first index, but changed the resource weights by combining the weights from the 20-group scheme.

To assess whether the observed pattern of more intense medical and nursing needs of swing-bed patients might be due only to the greater proportion of skilled nursing patients in swing beds, the same profile analyses were conducted using only SNF patients. This stratification lessened the number of statistically significant differences between some variables. However, with these qualifications, the results of restricting the analyses only to SNF patients substantiated the overall pattern of greater medical intensity and skilled nursing needs on the part of swing-bed patients.

Restricting the swing-bed hospitals and nursing home comparison to ICF patients yielded the same general results. There were, of course, no Medicare patients involved in this comparison. The proportion of Medicaid swing-bed ICF patients (11%) was substantially lower than the proportion of nursing home ICF patients (63%). The vast majority (89%) of ICF swing-bed patients were private pay patients.

Restricting the analyses to Medicaid patients and thereafter only to Medicare patients yielded roughly the same results, although fewer significant differences occurred owing to the small sample sizes of Medicaid patients in swing-bed hospitals and Medicare patients in nursing homes. Examining swing-bed and nursing home differences exclusively for private pay patients also yielded results which closely paralleled those presented in Table IV.2.

Previous studies have shown case mix differences between hospital-based and freestanding nursing homes (Sulvetta, Holahan, 1986; Shaughnessy, Kramer, Schlenker, Polesovsky, 1985). Nonetheless, some evidence has been presented that suggests that hospital-based/freestanding case mix differences are less pronounced in rural nursing homes than in metropolitan nursing homes. Consequently, a comparison of swing-bed patients with only those patients in the nursing home sample from hospital-based nursing homes was also conducted.

Despite the smaller number of patients in one of the two groups (89 hospital-based nursing home patients from seven hospital-based nursing homes), results that paralleled those in Table IV.2 were once again evident. The more subacute character swing-bed patients persisted. This held despite the fact that the proportions of SNF patients in swing-bed hospitals and hospital-based nursing homes did not differ significantly. Swing-bed patients tended to have better rehabilitation potential, were shorter stay patients, were more often Medicare and private pay patients, and were less often Medicaid patients. Relative to patients in hospital-based nursing homes, swing-bed patients were uniformly less dependent in terms of ADLs and IADLs according to prevalence indicators, severity indicators, and the ADL and IADL disability scales. The medical and nursing problems, as well as the primary and secondary diagnosis variables, yielded the same general trend noted earlier in comparing swing-bed patients to all nursing home patients.

3. Swing-Bed Case Mix Relative to Home Health Case Mix

Since swing-bed patients generally are less dependent in ADLs and IADLs than nursing home patients, and since they tend to have more subacute problems, the question arises as to whether home health care might be an adequate substitute for swing-bed care. Although it was not with in the scope of the study to collect primary data at the patient level for rural home health agencies in swing-bed communities, another set of case mix data on home health patients was available from an earlier study conducted by the same research team. Data on a number of common case mix and service mix variables were obtained for home health patients in the prior study and for swing-bed patients in the present study. Some differences existed, however with the present study being more comprehensive in terms of case mix variables, scales, and aggregate indicators. In addition, results from the earlier study must be qualified by the facts that the data correspond to calendar year 1981, and the data set was obtained from 20 home health agencies, 16 of which were in metropolitan areas, in 10 States. Nonetheless, the nature of the similarities and differences in the case mix profiles presented in Table IV.3 appears to provide some worthwhile insights into the relationships between swing-bed case mix and home health case mix.

Although swing-bed patients were more independent than nursing home patients in ADLs and IADLs, the illustrative results presented in Table IV.3 indicate that home health patients are significantly more independent than swing-bed patients in both functional areas. Owing to the difference in the data sets, it is not possible to present precisely the same variables in Table IV.3 as in Table IV.2. It is apparent, however, that home health patients tend to be considerably more independent in both physical functioning and areas that require an integration of physical and cognitive functioning. The pattern of greater dependence in ADLs and IADLs on the part of swing-bed patients is paralleled by higher proportions of patients with medical and nursing problems that fall into the chronic or more typical long-term care problem areas. Thus, higher proportions of swing-bed patients are characterized by urinary incontinence, bowel incontinence, constipation, and mental status problems than home health patients. Urinary tract infections are also more prevalent among swing-bed patients. The same points may pertain here as discussed in the preceding section in the context of the higher proportion of swing-bed patients with urinary tract infections relative to nursing home patients.

The data suggest, however, that swing-bed patients are probably characterized by a more intense set of medical and skilled nursing needs than home health patients, although the difference is not as pronounced as it is between swing-bed patients and nursing home patients. Significantly higher proportions of swing-bed patients have intravenous catheters, urinary catheters (not shown in the table), hip fractures or strokes as primary or secondary diagnoses. Although slightly more prevalent for swing-bed patients, differences in terms of recovery from surgery, presence of ostomies, and end stage renal disease, are not significant. The higher proportion of patients with neoplasms (as a primary or secondary diagnosis) for swing-bed hospitals, however, was nearly significant.[7] Restricting the swing-bed versus home health case mix analyses to Medicare patients produced the same basic results as contained in Table IV.3.

TABLE IV.3: Case Mix Profiles of Long-Term Care Patients in Swing-Bed Hospitals and Home Health Agencies, 1984/1985 and 1981.[a]

Case Mix Characteristics	Swing-Bed Hospital Patients[b]	Home Health Patients[b]
Percent with Disability in Activities of Daily Living		
Bathing	62.7%	50.4%
Dressing	60.1	38.6
Feeding	32.8	18.6
Ambulation	55.6	29.8
Transferring	38.4	20.2
Percent with Disability in Instrumental Activities of Daily Living		
Communication	14.7%	5.6%
Finances	58.8	35.3
Telephone	30.8	17.7
Transportation	29.8	18.0
Percent with Medical or Nursing Problems		
Shortness of Breath	20.5%	45.4%
Recovery from Surgery	13.2	11.2^{n}
Intravenous Catheter	6.3	2.0
Ostomy	2.9	2.6^{n}
Catheter	20.9	16.4**
End Stage Disease	9.0	7.7^{n}
Urinary Incontinence	34.0	17.2
Urinary Tract Infection	10.7	5.8*
Bowel Incontinence	29.0	16.9
Constipation	20.7	14.3*
Mental Status Problems	40.3	32.5*
Percent with Primary or Secondary Diagnosis Category		
Hip Fracture	10.1%	2.5%
Neoplasm	14.5	11.6^{n}
Stroke	20.1	10.9

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[a] Mean differences are significant at $p<.001$ unless superscripted with an asterisk (*) or a lowercase n (^{n}): a double asterisk (**) implies significance between the .001 and .05 levels, while a single asterisk (*) implies significance between .05 and .10 levels. A superscript n (^{n}) implies nonsignificance with $p>.20$.

[b] Based on a sample of 552 patients in 33 swing-bed hospitals in 1984/1985 and 653 home health patients from 20 home health agencies in 1981.

The results therefore suggest a continuum of dependency and subacute problem intensity in terms of the case mix that characterizes nursing home patients, home health patients and swing-bed patients. In general, nursing home patients tend to be more dependent in traditional measures of functioning than swing-bed patients, which in turn are more dependent in functioning than home health patients. Subacute care needs, however, appear to be strongest in swing-bed patients, although it is likely that when a certain level of rehabilitation is reached, such pateitns can and should be discharged to home where certain types of medical services are more frequently provided by home health nurses to patients with subacute needs than is the case in more traditional nursing homes. Nonetheless, home health care also relies on some degree of independence in terms of physical functioning and mental functioning. If such independence is not possible, especially in rural areas where distances home health nurses have to travel can be substantial, then such care is not indicated.

4. Community Retention and Access

As shown in Table IV.4, on survey data from 31 swing-bed hospitals and 31 nursing homes in 12 States in 1985, 93% of the swing-bed nurses felt more patients were receiving long-term care in their home community in 1985 than in 1982. Table IV.4 also shows that of the nurses responding from community nursing homes located in or near swing-bed communities, 65% felt more patients were receiving long-term care in their home community in 1985 than in 1982. Eighty percent of the nurses who felt community retention had increased indicated that the increase involved at least 20% more long-term care patients receiving care in their home communities.

TABLE IV.4: Physician and Director of Nursing Estimates of Increased Access in Swing-Bed Communities, 1985.[a]

	Percent Who Estimated More Patients Received Long-Term Care in their Home Community in 1985 Relative to 1982		
	From Swing-Bed Hospitals	From Nursing Homes in Swing-Bed Communities	Combined
Directors of Nursing	93%	65%	79%
Physicians	97%	N/A	97%

	Of Those Estimating Increased Numbers of Patients Receiving Long-Term Care in their Home Community in 1985, Distribution of Estimates of Percent Increase		
	Less than 20%	21 - 50%	More than 50%
Directors of Nursing	20%	51%	29%
Physicians	47%	35%	18%

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[a] Data from phone and site surveys of Directors of Nursing at 31 swing-bed hospitals and 31 nursing homes in swing-bed communities in 12 States, and from phone surveys of 38 physicians in swing-bed hospitals in 10 States in 1985.

Analogously, of the 38 physicians surveyed, 97% felt more patients were receiving long-term care in their home community in 1985. Of these, however, 53%, a somewhat lower number than the 80% for the nurses, felt the retention had increased by more than 20%. Further, 64% of the responding physicians felt the swing-bed program had a discernable impact on retention of long-term care residents in communities adjacent to the swing-bed community. Both physicians and nurses reported that the types of long-term care patients more likely to remain in their home community after implementation of swing beds were those with fractures, elderly who could not care for themselves, those with strokes, postsurgical patients, and cancer patients.

As shown previously in Table IV.1, the average distance to the patient's residence was approximately 21 miles for swing-bed patients and 50 miles for nursing home patients. Since this comparison excludes rural nursing home patients receiving care in urban facilities, it underestimates the difference in distance and travel time for nursing home patients and swing-bed patients.

Approximately 75% of all swing-bed patients were admitted from acute care, with about two thirds of these, or over 50% of the total, admitted from the acute care portion of the swing-bed hospital itself. For nursing home patients, about 50% were admitted from acute care, and only 7% were admitted from the same facility (the hospital-based portion of a facility whose hospital-based distinct part was included as a comparison nursing home; seven such hospital-based nursing homes were in the sample).

The finding that nursing homes and swing-bed hospitals in rural areas treat different types of patients is consistent with the situation of an unmet need for institutional SNF care in rural communities. This was also noted during the demonstration period in the 1970s. For example, during the Utah swing-bed demonstration, the utilization of Medicare SNF care in rural Utah rose from 188 Medicare SNF patient days to 283 days per 1,000 Medicare beneficiaries between 1971 and 1975 (Shaughnessy et al., 1978).

C. SUMMARY OF FINDINGS

The more important findings from the case mix comparisons and the community retention analyses are as follows:

1. A higher proportion of swing-bed patients relative to nursing home patients are classified at the skilled level of care, although this alone does not account for the general tendency for swing-bed patients to have shorter stays and greater rehabilitation potential than nursing home patients at both the SNF and ICF levels.

2. A considerably higher proportion of swing-bed patients are admitted to long-term care from acute care settings than is the case for nursing home patients. The typical swing-bed patient is cared for closer to home than is the typical nursing home patient in rural communities.

3. Swing-bed patients generally tend to be less disabled in terms of ADLs and IADLs than nursing home patients. Swing-bed patients are more frequently characterized by subacute or medically intense problems and conditions such as shortness of breath, recovery from surgery, intravenous catheter, hip fracture within the past 6 weeks, and ostomies, than is the case for nursing home patients.

4. Nursing home patients are more frequently characterized by traditional long-term care problems such as incontinence, mental status problems, sensory deficit, constipation, and inadequate social support.

5. This general pattern of a more subacute case mix profile for swing-bed hospitals relative to nursing homes persists for SNF patients, ICF patients, and Medicare patients, as well as when attention is restricted to only patients from hospital-based rural nursing homes.

6. Comparisons of swing-bed patients with home health patients in 1981 indicate that swing-bed patients are more dependent in ADLs and IADLs than home health patients. Accompanied by a greater dependency in cognitive functioning, this lack of independence in ADLs requires at least a brief period of institutional care for subacute patients in swing beds.

7. Although not as pronounced as the difference in subacute problems between swing-bed patients and nursing home patients, swing-bed patients seem to have somewhat more intense medical needs and skilled nursing needs than home health patients. Such needs would appear to require skilled nursing care to be available on a continuous basis.

8. Over 80% of nurses and physicians in swing-bed communities feel the swing-bed program has enhanced the retention of long-term care patients in their home communities. Earlier data from the Utah swing-bed demonstration indicated that a per capita increase in the number of Medicare SNF patients receiving care in their home community occurred as a result of the swing-bed approach.

CHAPTER IV NOTES

[1] More rigorously, service mix, as case mix, also refers to a group of patients, but is defined in terms of aggregated health services extrinsic to the individual that are provided in response to his/her health care needs (Shaughnessy, 1987). Variables such as the number of provision of lab tests, physician visits, bathing care, indwelling catheter care, wound care, physical therapy, and medications are service variables that, when aggregated across patients, can be used to measure the service mix of a patient group. Other patient characteristics, such as payer source, home situation, marital status, and distance to residence are often important in utilization or access analyses, but are neither case mix nor service mix variables. For convenience, they are referred to as patient mix variables in this report.

[2] The samples were selected randomly during 1984 and early 1985, without regard to level of care or payer source, since the primary objective of the analysis was to compare rural swing-bed patients with rural nursing home patients. Although the samples were cross-sectional as opposed to longitudinal, patients were selected from the same facilities at several different points in time because only a few long-term care patients occupied hospital swing-beds at any single time. The study design called for sampling with replacement. The same sampling procedures were used in nursing homes in order to obtain approximately the same number of patients at each time point for purposes of controlling for seasonal case mix trends over a period of several months.

Thus, an individual patient was eligible to be selected for the sample at more than one time point. The number of swing-bed patients who appeared more than once in the sample was greater than the corresponding number of nursing home patients, owing to the smaller total sampling frame (that is, census at the time of data collection) for swing-bed hospitals. To assess the degree to which this influenced final results, comparisons were conducted using unduplicated patient observations. The same general patterns and trends occurred for these analyses as for the more appropriate analyses which allowed for duplication of the same patients at different time points.

[3] As discussed in footnote 4, Table IV.2 contains three service mix variables.

[4] The percentages of patients with intravenous catheters and ostomies are, using the definition in footnote 1, service mix variables. Their use here as indicators of patient needs carries the assumption that such variables are provided appropriately, in accordance with the health status requirements of patients. Along with the indwelling urinary catheter variable of Table IV.2, they are therefore weaker variables for purposes of measuring patient health status than the other variables in the table which are more direct and do not rely on the (provider's) judgemental linkage between services and health status.

[5] Subacute problems included shortness of breath, diabetes mellitus, recovery from surgery, intravenous catheter, end stage renal disease, depressive symptoms, urinary tract infection, and urinary catheter. Typical long-term care problems

included nutritional status problems, constipation, sensory deficit, mental status impairment, inadequate social support, bowel incontinence, urinary incontinence, and mobility impairment.

[6] Patients could be directly classified into 14 of the 16 categories using the primary data collected for the case mix random sample. The rehabilitation category, however, required information on the volume of physical therapy services provided to the patient. Since the requisite data on physical therapy services were only available for a subsample of patients, a discriminant function was constructed to classify rehabilitation and nonrehabilitation patients on the basis of this subsample, using other case mix variables (that were uniformly available for all patients in the case mix sample) as predictors. The canonical correlation and the percentage of cases correctly classified by the discriminant function were .66 and 85%, respectively. This procedure was then used to classify patients into the rehabilitation category for the entire case mix sample. The fact that it is approximate therefore renders the results approximate, although it is expected that the potential error introduced by virtue of this approximation is minimal, since the general pattern of more intense medical care is clearly evident across the two case mix profiles.

[7] The significance level associated with the difference between swing-bed patients and home health patients in terms of the prevalence of neoplasms (14.5% versus 11.6%) is $p=.128$.

CHAPTER V

QUALITY OF CARE AND SERVICE USE

A. INTRODUCTION

The quality of postacute care has taken on increased importance during the recent past because of the potentially deleterious effects of shortened acute stays under PPS. Concerns have been voiced that long-term care facilities are not able to properly treat the more intensely ill or subacute types of patients now being discharged from hospitals to long-term care settings (Schlenker, 1986). Equally important, strong reservations have been expressed over the last 5 years about the quality of care provided in nursing homes (S. Katz, 1986).

In the context of this study, it is important to examine the quality of care provided by swing-bed hospitals and nursing homes relative to the case mix that characterizes each type of facility. Since swing-bed hospitals gravitate to providing long-term care to subacute patients, do they provide subacute care as well as nursing homes? If not, the entire swing-bed movement should be called into serious question and possibly eliminated in favor of constructing new nursing homes or upgrading current ones to care for such patients. On the other hand, since nursing homes treat predominantly traditional long-term care patients or patients with chronic problems, do they care for such patients as well as swing-bed hospitals? If not, perhaps greater emphasis should be placed on encouraging swing-bed hospitals to compete more directly with community nursing homes for the care of such patients.

Ideally, quality of care should be measured through patient outcomes (Donabedian, 1980). However, the attribution of patient outcomes to treatments is far from straightforward. A large number of mitigating factors and risk factors quite apart from treatments can influence patient outcomes. This problem is exacerbated in the long-term care field where pertinent outcomes often occur only over relatively extended periods of time. Further, improvement in health status is not always possible nor appropriate for long-term care patients. At times, the most desirable outcomes include maintaining function, slowing the rate of regression of certain chronic problems, or minimizing pain and discomfort prior to death. Despite the recent and ongoing work to use out comes in the long-term care field (Kane et al., 1983; Lehman et al., 1984; Mitchell, 1978), no definitive outcome measures nor approaches to assessing outcomes have emerged that would preclude the utility of both process and structural measures of quality (Kurowski and Shaughnessy, 1983).

As stated in Chapter II, the present study is comparative in nature. Especially in view of the mandate by Congress and the findings from the evaluations of the swing-bed demonstrations in the 1970s, the primary focus of the analyses dealing with quality of care is a comparison of swing-bed care relative to nursing home care. A balance between outcome, process, and structural indicators of quality was employed. While outcome analyses are now underway as part of the RWJF component of the study discussed in Chapter II, results are presently available from the analyses of process and structural measures of quality. In addition, the preliminary analyses involving short-term outcomes are available for (case mix-adjusted) length of stay until discharge home.

Thus, the quality analyses conducted here were designed to investigate issues associated with the concerns inherent in the July 1982 swing-bed regulations. These concerns had their basis in the results of the evaluation studies of the swing-bed demonstrations in the 1970s. Those studies found that many hospital personnel were not familiar with or experienced in caring for the needs of long-term care patients. Overall, swing-bed hospitals tended to be inadequate relative to nursing homes in treating patients with traditional or chronic long-term care problems. Written discharge plans were not normally present for long-term care patients discharged from swing-bed hospitals in the 1970s. Further, certain SNF conditions of participation that were waived for the swing-bed demonstrations in the 1970s were rarely met by swing-bed hospitals. As a result of these findings, the July 1982 Federal swing-bed regulations required discharge planning and several other services to assure a minimal capacity to provide long-term care (Shaughnessy and Schlenker, 1986). The primary objective of the present study is to assess whether these weaknesses in care actually provided, or in the capacity to provide long-term care in swing-bed hospitals, still persist today.

B. FINDINGS

The results involve three separate patient-level data bases and a facility-level data set. The three patient-level samples were summarized in Chapter II and consist of the discharge random sample, the in-facility stratified sample, and the case mix random sample. The facility-level data base involves structural indicators of quality that correspond to the SNF conditions of participation that swing-bed hospitals frequently did not satisfy in the 1970s. The manner in which each data base was used is summarized here, prior to presenting the findings.

The discharge random sample of 241 swing-bed patients discharged from 17 swing-bed hospitals and 410 nursing home patients discharged from 24 community nursing homes is used here to provide discharge status profiles for the two types of patients. The respective sample sizes were decreased to 229 and 400 for the results presented here. This was because length of stay for some patients was not judged sufficiently accurate for the comparative analyses that required stratifying patients into short stay and long stay groups. For live discharges, the prevalence rates for patients with written discharge plans, discharged to home, discharged to acute care, and discharged to nursing homes are presented. Certain patient status indicators or case mix variables at discharge are also presented. Mortality rates for the two facility types as well as reasons for death, are compared.

The in-facility stratified sample is comprised of four separate random samples each consisting of patients with confusion, incontinence, stroke, or hip fracture. Combining cases across all four strata represents an approximate random sample of patients with problems in one of these four areas, since the sampling fractions were the same for each stratum. In all, 211 swing-bed patients from 33 swing-bed hospitals and 215 nursing home patients from 41 nursing homes comprise this sample. A relatively large number of patients had problems in more than one of the four areas. This sample was used to study length of stay until discharge to independent living (home) from time of admission. In order to compare length of stay until discharge home, survival analysis methods were used to adjust for case mix differences between the nursing home and swing-bed patient samples and to compensate for patients discharged to other locations.[1]

The in-facility stratified sample was also used to examine process measures of quality, by constructing quality scores for individual sets of services using methods similar to (but not identical with) those used in the original swing-bed research of the late 1970s.[2] In the present study, an effort was made to divide services into categories in keeping with the case mix patterns noted in the preceding chapter. Quality scores were calculated for services that are generally regarded as subacute services as well as for services that are generally regarded as more typical long-term care services.

Swing-bed patients and nursing home patients were also compared in terms of the frequency of certain types of service provision. This involved using the same case mix random sample that was used in analyzing swing-bed and nursing home case mix to compare the relative frequency of certain types of services during the week prior to data collection (for each of the 552 swing-bed patients and 540 nursing home patients). The services involved in this comparison included, but were not restricted to, the number of physician visits in the past week, laboratory tests in the past week, X-rays in the past week, use of antibiotics for urinary tract infections, and intravenous medications. Thus, the three patient-level samples used in this chapter include a discharge sample, an admission sample, and a cross-sectional sample of patients in swing-bed hospitals and nursing homes.

The facility-level data used to examine compliance with conditions of participation came from two sources. Certification surveys (Medicare/Medicaid SNF reports) were used in 1978 for 33 SNFs in swing-bed communities. The results of summarizing compliance rates for Medicare conditions of participation in 1978 are presented for these 33 SNFs in 3 States (Iowa, South Dakota, and Texas). Also in 1978, mail/phone surveys of administrators in 81 swing-bed hospitals were conducted to obtain information on the extent to which selected SNF conditions of participation were satisfied by their hospitals. The same survey was readministered in 55 swing-bed hospitals in 1984. The compliance rates for the more important conditions of participation are therefore presented for swing-bed hospitals in 1978 and 1984, relative to SNF compliance rates in 1978. Although a formal analysis of SNF compliance rates in 1984 was not conducted, an informal phone/site investigation suggested that the compliance rates for SNFs in 1978 and 1984 were about the same for the rural communities of interest (also, the SNF compliance rates were nearly all in excess of 90%).

1. Discharge Status Profiles for Swing-Bed Patients and Nursing Home Patients

Table V.1 presents discharge status profiles for swing-bed patients and nursing home patients from the discharge random sample described above. Patients were subdivided according to whether they were short stay (within 30 days of admission) or long stay (more than 30 days after admission). This was because of the substantially longer stays associated with nursing home patients, and therefore is a partial (but not total) adjustment for case mix differences between swing-bed hospitals and nursing homes. In addition, stays for both nursing home and swing-bed patients in the discharge sample are somewhat longer than average stays estimated using survey data. The stratification into short and long stay patients

TABLE V.1: Discharge Status Profiles for 229 Swing-Bed Patients and 400 Nursing Home Patients.

Discharge Status Characteristics	Patients Discharged Within 30 Days After Admission^a		Patients Discharged More than 30 Days After Admission^b	
	Swing-Bed Mean^c	Nursing Home Mean^c	Swing-Bed Mean^c	Nursing Home Mean^c
Live Discharges	85.4	47.9	79.5	39.8
For Live Discharges Only				
Utilization Attributes				
Discharged with Written Discharge Plan (%)	96.0	72.7	100.0	76.7
Discharged Home (%)	54.3	58.8^n	32.3	28.9^n
Discharged to Acute Care (%)	2.4	20.6	4.8	30.5
Discharged to Nursing Home (%)	40.2	17.7	59.7	32.8
If Discharged Home, Discharged with Home Health Care (%)	32.9	22.7^n	32.4	27.3^n
Patient Status Indicators				
Urinary Tract Infection: Urinalysis/Culture Proven (%)	14.6	2.9	18.6	3.1
Ulceration of Skin (%)	11.5	0.0	12.9	6.1^n
Dependent in Bathing Scale (0-5)^d	3.1	2.5*	3.3	3.0^n
Mobility Impairment Scale (0-3)^d	0.6	0.4	0.9	0.4
Pronunciation Problems Scale (0-3)^d	0.3	0.1	0.4	0.4^n
Psychotic Symptoms Scale (0-2)^d	0.0	0.1	0.0	0.1
For Discharges Due to Death				
Length of Stay (in Days) Until Discharge	13.1	12.0^n	116.9	1052.1
Primary Cause of Death:				
Neoplasm (%)	36.3	31.4^n	33.3	13.2*
Circulatory Disorder (%)	31.6	40.0^n	26.7	46.5**
Respiratory Disorder (%)	0.0	11.4**	6.7	20.1**

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[a] Based on 151 swing-bed patients and 73 nursing home patients discharged within 30 days after admission.

[b] Based on 78 swing-bed patients and 327 nursing home patients discharged more than 30 days after admission.

[c] Mean differences are significant at $p<.05$ unless the nursing home value is superscripted with an asterisk (*) or a lowercase n $(^n)$. A single asterisk (*) implies significance with $.05 \le p < .10$. A double asterisk (**) implies significance with $.10 \le p \le .20$. A superscript n $(^n)$ implies nonsignificance with $p>.20$.

[d] Numbers in parentheses denote the range of values taken on by an ordinal scale, with larger values denoting greater dependency.

for the comparisons presented here is intended to minimize or eliminate inaccurate inferences due to a possible bias toward longer stay patients in the discharge random sample. Future analyses on the other two study components mentioned in Chapter II will be based on other primary data sets that will also help address this issue.

The percent of patients discharged alive, i.e., the complement of the mortality rate, is substantially higher for swing-bed hospital patients in both groups. Since mortality is at best a crude indicator of outcome quality, this should not be interpreted at the present time as a difference in quality of care between swing-bed hospitals and nursing homes. Rather, it very likely reflects the significant case mix differences presented in the preceding chapter and is only partially compensated for by virtue of considering short stay and long stay patients separately. This result is also in keeping with the results from the last chapter showing that the rehabilitation potential of patients in swing-beds is greater than for nursing home patients.

As mentioned, a distinct weakness associated with swing-bed care in the 1970s was the absence of discharge planning for long-term care patients, in particular the absence of written discharge plans. Owing in large part to the resulting legislative requirements for discharge plans and to the information dissemination efforts discussed in Chapter I, it appears that this problem has been rectified exceptionally well. For both short stay and long stay patients, swing-bed hospitals now have a higher proportion of patients discharged with written discharge plans than nursing homes in the same communities. This is a significant reversal of the results from the demonstration programs.

The percentage of patients discharged home does not differ between swing-bed patients and nursing home patients, for both the long stay and short stay groups. However, the nursing homes discharged patients to acute care more often for both short and long stay patients. This very likely reflects the fact that care for medical problems is more frequently provided in the swing-bed setting without physically discharging the patient to acute care (including emergency room care), something which cannot be easily done for subacute care patients in nursing homes. Consequently, in a nursing home, when patients approach a subacute status (for instance, when a patient experiences chest pain), they are more likely to be transferred or discharged to the hospital.

A higher proportion of swing-bed patients were discharged to nursing homes for both the short stay and long stay groups than was the case for nursing home patients. This would appear to be due to the fact that these patients are very likely moved from a subacute setting as they stabilize, some becoming more traditional long-term care patients appropriate to place in nursing homes. A nursing home is less likely to transfer a patient to another nursing home for medical reasons. This difference reflects one of the purposes served by swing-bed care mentioned earlier, namely to use such beds for holding beds until a patient is able to be discharged home or to a community nursing home. It also raises the question of whether the shorter stays associated with swing-bed hospital care, including shorter stays until discharge to independent living, are nothing more than an artifact of the greater rehabilitation potential of swing-bed patients. This is discussed further in the next section.

Although patients discharged home with home health care did not differ significantly between the two facility types, swing-bed patients were more frequently characterized as receiving home health care than nursing home patients. Nevertheless, ongoing analyses of other data sets with more patients and more detailed longitudinal data, suggest the difference in home health use between discharged swing-bed patients and discharged nursing home patients is significant.[3]

The remaining variables in Table V.1 that pertain to live discharges are all patient status indicators. The greater prevalence of urinary tract infections and skin ulcers among discharged swing-bed patients suggests inadequate care in these two areas relative to nursing home care. The urinary tract infection prevalence rates, however, may be partly an artifact of the greater capacity to carry out the necessary laboratory work to verify such infections on the part of hospitals. Nevertheless, this is an area of concern. The higher prevalence of skin ulcers suggests that swing-bed hospitals are less attentive to preventive skin care, than nursing homes, a result further substantiated by the process quality results in the next section.

The remaining findings for patient status variables for live discharges generally suggest a greater dependence in ADLs, mobility, and pronunciation problems in short stay swing-bed patients. Thus, despite the findings that swing-bed patients are more frequently characterized by greater independence on a cross-sectional basis, as noted in the preceding chapter, they are discharged sooner, and often are more dependent than nursing home patients at time of discharge. This in part accounts for the higher discharge rates from swing-bed hospitals to nursing homes, for both short stay and long stay patients.

Short stay patients discharged due to death do not differ significantly between nursing homes and swing-bed hospitals in terms of length of stay prior to death. Long stay patients, however, differ substantially between swing-bed hospitals and nursing homes. The tendency of nursing homes to admit and care for long-term care patients who are chronically ill and ultimately die in the nursing home is reflected by the nearly tenfold difference between length of stay until death between the two facility types.

Among long stay patients, cancer is considerably more likely to be the cause of death for swing-bed patients than nursing home patients. Circulatory disorders, such as cardiovascular accidents (CVAs), are nearly twice as likely to be the primary cause of death among long stay nursing home patients. Similarly, respiratory disorders are more likely to be the cause of death among nursing home patients in both the short and long stay groups. In addition to subdividing the discharge random sample according to whether patient stays were greater or less than 30 days, the sample was also stratified into two groups corresponding to stays greater or less than 60 days. The patterns of results from this second stratification were essentially the same as those just presented.

2. Length of Stay Until Discharge Home

The in-facility stratified sample, since it was a prospective admission sample of patients who were followed weekly for up to 6 weeks after admission, permitted a more detailed analysis of length of stay until discharge home. For this sample, the proportion of patients discharged home from swing-bed hospitals was significantly greater than the proportion discharged home from nursing homes. In addition, length of stay until discharge home was less for swing-bed patients than for nursing home patients. Since these differences were quite possibly due to case mix differences, both unadjusted and adjusted survival analyses were undertaken to investigate the significance of the differences.[4]

As mentioned, the in-facility stratified sample consists of patients with at least one problem in any of the four areas of confusion, incontinence, stroke, or hip fracture. The survival curves presented in Figure V.1 are illustrative of the results obtained for each of these four areas separately. The two graphs on the left-hand side of the figure pertain to all patients combined in the in-facility stratified sample, exclusive of patients who died. The two graphs on the right pertain to all confused patients, exclusive of those who died. In reviewing the results, two points are important. First, the "all patients" group is a random sample of swing-bed and nursing home patients who have at least one of the four aforementioned problems. While this sample does not comprise a random sample of all swing-bed and nursing home patients, these four problem areas were selected owing to their representativeness in terms of both typical and subacute long-term problem areas. Secondly, the longitudinal nature of this sample corresponds to a relatively brief period of time, approximately 6 weeks after admission. The extent to which patients discharged home were subsequently readmitted to nursing homes, swing-beds, or hospitals, is unknown, although ongoing analyses for the RWJF component of the study will address this issue.

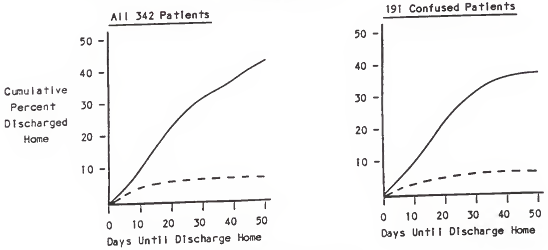
The survival curves represent the cumulative proportion of patients discharged home at any particular time point. Therefore, the "higher" the curve, the more desirable the outcome from the viewpoint of discharge to an independent living situation (in this case home). As is apparent from the unadjusted survival curves, swing-bed hospitals generally tend to discharge patients to home sooner and more frequently than nursing homes. This pattern is evident both for the total sample and for confused patients only. The pattern also persisted for each of the other three problem areas (i.e., incontinent patients, stroke patients, and hip fracture patients).

However, the case mix differences between swing-bed patients and nursing home patients were substantial, as noted in Chapter IV. Therefore, the extent to which the differences in the unadjusted curves might be due to case mix differences was investigated further. The lower two sets of curves in Figure V.1 represent case mix adjusted survival curves. Although the distance between the original curves is lessened, it is apparent (and statistically significant) that, even after adjusting for case mix differences, swing-bed hospitals tend to discharge patients home with more frequency and with shorter lengths of stay than nursing homes. The same results persisted for the incontinence, stroke, and hip fracture cohorts.

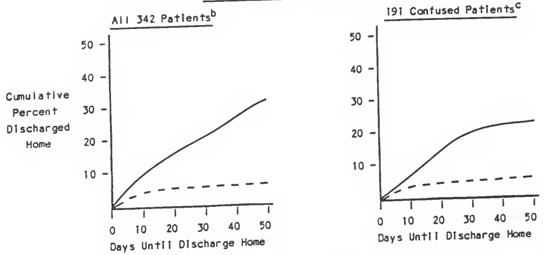
In adjusting the survival curves for case mix, approximately 100 case mix variables were examined as potential risk factors or covariates that could influence or mitigate the length of stay until discharge home. As indicated in footnotes b and c of the figure, three of these were significant for the total sample, and four were significant for the sample of patients with confusion.

FIGURE V.1: A Comparison of Swing-Bed (——) and Nursing Home (– –) Patients in Terms of Unadjusted and Case-Mix-Adjusted Cumulative Distributions of Stays Until Discharge Home, for All Patients and Confused Patients.[a]

Unadjusted Curves



Case-Mix-Adjusted Curves



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[a] All curves presented here are significantly different for $p<.001$. Patients discharged due to death were excluded from these analyses. The case mix adjustments involved placing swing-bed patients at mean values for nursing home patients, thereby approximating the survival curves (i.e., length of stay until discharge home curves) for swing-bed patients as if they had the same case mix as nursing home patients. A large number of case mix variables were analyzed using a stepwise survival analysis method. The variables given below are the only ones that were significant at $p<.20$.

[b] The total patient sample was adjusted for three significant case mix variables: (1) rehabilitation potential; (2) a variant of the case mix index appearing as the last entry in Table IV.2; and (3) the bathing ADL scale. The respective correlations between these variables and length of stay until discharge home were .63, -.33, and .31.

[c] The case mix variables used to adjust the survival curve for confused patients were: (1) rehabilitation prognosis; (2) a scale denoting the adequacy of the home support system; (3) a scale denoting the dependency of the patient's ability to administer his/her own medications; and (4) a scale indicating the degree of surgical recovery. The respective correlations between these variables and length of stay until discharge home for confused patients were .56, -.23, .36, and -.28.

In all, it appears that the curative or rehabilitative philosophy that characterizes acute care more so than long-term care may be at the basis of a significantly greater tendency for swing-bed hospitals to discharge long-term care patients to an independent living environment more frequently and more rapidly than nursing homes. On the surface, this appears to be beneficial both from the viewpoint of the enhancement of quality of life and cost containment. The results presented here are not comprehensive in this regard, however, owing to the two qualifications on the representativeness and time period covered by the sample. Nonetheless, they strongly suggest that swing-bed hospitals do not follow the pattern of retaining patients or discharging patients to dependency-fostering living settings as much as nursing homes. The extent to which this may result in higher readmission rates to acute care after discharge or greater utilization of other types of health care services after discharge will be investigated as part of the RWJF component of the study.

3. Process Quality Comparisons

For each patient in the in-facility stratified sample, data were collected on 27 separate long-term care services. These services ranged from services more typically provided in traditional long-term care settings to other services that, although available and provided in nursing homes, might be more likely to characterize services needed for subacute patients. The 27 services included assistance with:

1. Bathing
2. Dressing
3. Grooming
4. Eating
5. Elimination
6. Walking
7. Transferring
8. Repositioning
9. Preventive Skin Care
10. Wound Care
11. Personal Interaction
12. Activity Programs
13. Blood Pressure
14. Relieve Pressure
15. Pain Control
16. Range of Motion
17. Physical Therapy
18. Occupational Therapy
19. Speech Therapy
20. Reality Orientation
21. Environmental Therapy
22. Assistive Devices
23. Protective Services for Wandering
24. Psychotherapy
25. Catheterization
26. Bladder Training
27. Devices for Control of Incontinence

For each service, data were collected on whether the service was provided in the past week, the frequency with which it was provided, and the provider(s) of the service. In addition, contraindications to service provision were also collected by virtue of information obtained on patient conditions. Thus, the nature of the sample and data collected permitted analyses of whether each of the 27 services was provided, the extent to which it was provided, and the provider of the service. Such data were available for patients stratified according to the four cohorts represented in the in-facility stratified sample, with the ability to take into consideration whether individual patient conditions contraindicated provision of certain services. The incontinence, stroke, and hip fracture cohorts were further subdivided according to whether the nature of the patient's problem basically required maintenance services rather than rehabilitation services. The service provision data, taking contraindications into consideration, were analyzed for the various cohorts and subcohorts individually and combined.

In addition to purely descriptive statistics on service provision, process quality scores were constructed. They were based on and represented refinements of approaches used in previous studies (Shaughnessy, Breed, Landes, 1982). The services were identified and operationalized with the help of quality advisory panels consisting of multidisciplinary groups of experts in the long-term care field. The panels included registered nurses (RNs), physicians, physical therapists, social workers, and other researchers and practitioners. Numeric weights characterizing the appropriateness and importance of individual services for the specific problem cohorts were developed for use in the evaluation. Individual quality scores were computed for each service and then aggregated to the individual problem level (i.e., the problems that define the cohorts and subcohorts), both on a service-specific basis and for groups or clusters of services. An illustration of the procedure is given below.

The adequacy of each service provided for each patient problem/cohort was determined by examining both frequency and provider of service and assigning a score. Individual frequency and provider scores ranged from 0 to 50 for most services assessed. The total service quality score was computed by combining the frequency and provider scores. Total service quality scores ranged from 0 (totally inadequate or not provided at all) to 100 (entirely adequate).

As an illustration, consider the range of motion service. This service refers to nursing staff providing therapeutic passive or active exercises of affected joints through the patient's full range of motion. The service excludes normal movement associated with bathing, dressing, and ambulation, and also excludes therapy by an occupational or physical therapist. (Physical and occupational therapy service scores were also constructed independently of range of motion, and the nursing staff range of motion service scores varied depending on the level of occupational or physical therapy the patient received.) For range of motion provided by nursing staff, the values of 50, 40, 25, 10, and 0 were respectively assigned depending on the frequency with which range of motion services were provided, beginning with three to six times a day and ranging to not at all. A penalty was applied for over provision by assigning less than the maximal number of points if the service was provided more than six times a day. The provider scores for range of motion were 50, 40, or 0 depending on whether the service was provided by RNs, licensed practical nurses (LPNs), or a combination of different types of nursing staff (50), exclusively aides or orderlies (40), or not sufficiently often in the last week (0).

Thus, individual patients received a specific score between 0 and 50 for the provider dimension of the service and a specific score between 0 and 50 for the frequency dimension of the service. The combined score represented the overall service quality score, although frequency and provider service scores were also analyzed individually. The frequency and provider scores for services appropriate to a particular problem (such as confusion or incontinence) were aggregated and averaged to derive problem-level scores.

The scores for services that could be combined into clinically meaningful groups or clusters were similarly aggregated and averaged. Specifically, after the initial descriptive analyses, and in keeping with conceptual and clinical criteria, the services were grouped into seven categories. The average quality scores at the patient-level were then calculated for each of the seven categories. Since the results for these seven categories summarize reasonably accurately the overall analyses conducted using individual services and other service clusters or groups in addition to the seven, the findings associated with the seven service groups described in Table V.2 constitute the summary findings for the process quality component of the study.

Table V.2 defines the services that comprise each group and also provides the rationale as to why the service grouping is relevant. When services were weighted differently in averaging the quality scores for individual services within a cluster, the overall results did not change. For this reason, the average service scores presented in Table V.3 correspond to the unweighted versions of the process quality transformations.

The effects on the quality scores of case mix differences between swing-bed hospitals and nursing homes were first assessed by virtue of stratification into the various cohorts (e.g., confused patients). Thereafter, case mix adjustment analyses were conducted. The case mix adjustments involved treating each quality score as a dependent variable in a regression equation with independent variables consisting of case mix variables and an indicator variable corresponding to whether each patient was a swing-bed or nursing home patient.[5] This analysis was carried out separately for the quality scores for each service group and was applied to all four problem cohorts combined and to each cohort separately (i.e., confusion, incontinence, hip fracture, and stroke). The unadjusted (for case mix) quality score means for the seven service groups are presented in Table V.3. The means pertain to patients in the four cohorts combined, and all mean differences between swing-bed and nursing home patients are statistically significant.

TABLE V.2: Definitions of/Rationale for Selected Service Groupings for Process Quality Measurement.

1. Physical Therapy

   Definition: Physical treatment of a bodily condition with techniques under direction/supervision of a physical therapist.

   Rationale: Physical therapy is a component to rehabilitating certain patients after hospitalization.

2. ADL Services to Assist with Bathing, Eating, and Walking

   Definition: Bathing services include set-up, transfer to tub/shower, supervision, and total body bathing. Complete bath is use of a tub, shower, whirlpool, or sponge bath. Eating service includes tray set-up, supervision, cutting meats, opening cartons, spoon feeding, and tube feeding. The walking service entails staff assistance with ambulation.

   Rationale: These are services often provided to acute care patients and for which labor intensity can be concentrated in the early stages of long-term care, especially for subacute patients.

3. Nursing Services Involving Blood Pressure, Relieving Pressure, Control of Pain, and Range of Motion

   Definition: Blood pressure monitoring involves taking and recording blood pressure in supine and upright positions. Relieving pressure pertains to the use of egg crate mattresses and sheep skins as protection from pressure on bony prominences. Control of pain involves use of prescribed analgesics. Range of motion is providing passive and active exercises of various joints.

   Rationale: These measures prevent significant undesirable clinical outcomes (e.g., relieving pressure helps prevent decubitus ulcers and range of motion helps prevent contracture) and are often relevant for subacute patients.

4. ADL Services to Assist With Elimination, Transferring, Repositioning

   Definition: Elimination assistance is help with moving to/from the toilet/bedside commode, or placement of bedpan/urinal. Transferring assistance is help with transferring between bed and chair or from chair to chair. Repositioning assistance is help with turning and positioning in bed.

   Rationale: These are services for which labor intensity often stabilizes after a period of time for chronic long-term care patients partially dependent in mobility.

5. ADL Services to Assist with Dressing and Grooming

   Definition: Dressing assistance is putting on and/or taking off articles of clothing including pajamas, robes, and shoes. Grooming assistance is help with partial baths, peri care, shaving, oral hygiene, nail care, and hair care.

   Rationale: These services are pertinent to issues of self-esteem for patients, and at times more important for long-stay patients than short-stay patients.

6. Nursing Staff Services Involving Preventive Skin Care, Wound Care, Devices for Sensory Loss, Personal Interaction, Activities, and Environmental Therapy

   Definition: Preventive skin care involves applying lotions and massaging bony prominences to stimulate circulation and prevent pressure areas in chairfast/bedfast patients. Wound care is provision of dressing changes, irrigations, soaks, heat lamps, and/or topical medication to surgical wounds/skin ulcers. Devices for sensory loss require helping the patient with use of glasses, contacts, and/or hearing aides. Personal interaction is instruction to and/or counselling of a patient. Activities involve group/individual activities oriented toward stimulating the psychosocial functioning of a patient. Environmental therapy entails multiple components of experiencing a safe, pleasant environment (e.g., frequent one-on-one nursing staff contact, presence of personal belongings, encouragement of outside visitors, and provision of an alert/pleasant roommate commensurate with the patient's needs/interests).

   Rationale: These services are related to a patient's total physiological/psychological comfort level, adaptation to an institutional setting, and, in general, quality of life.

7. Nursing Services Involving Bladder Training and Devices for Incontinence

   Definition: Bladder training is a program of toileting a patient at specified intervals in order to regain partial/full control of bladder function. Assisting with devices for incontinence involves application of diapers, pads, and/or briefs to control urine flow.

   Rationale: These services are often needed for more traditional incontinent patients, for longer-term control of urinary incontinence.

TABLE V.3: Process Measures of the Quality of Care for Selected Service Groups for Long-Term Care Patients in Swing-Bed Hospitals and Nursing Homes, 1984 and 1985.[a]

	Service Group	Means For Process Quality Scores[b]		Problem Cohorts Where Means are Different[c]
		Swing-Bed Patients (All Cohorts)	Nursing Home Patients (All Cohorts)	
1.	Physical Therapy	86.0	79.0	C^n, I^n
2.	ADL Services to Assist with Bathing, Eating, and Walking	95.7	76.8	C, I^n, H
3.	Nursing Services Involving Blood Pressure, Relieving Pressure, Control of Pain, and Range of Motion	85.3	76.8	C, I, H^n
4.	ADL Services to Assist with Elimination, Transferring, and Repositioning	78.5	87.1	C, I, H, S
5.	ADL Services to Assist with Dressing and Grooming	68.7	82.8	C, I, H, S
6.	Nursing/Staff Services Involving Preventive Skin Care, Wound Care, Devices for Sensory Loss, Personal Interactions, Activities, and Environmental Therapy	77.3	85.3	C, I, H^n, S
7.	Nursing Services Involving Bladder Training and Devices for Incontinence	75.4	88.8	C^n, I, H^n

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[a] Based on a stratified random sample of 211 swing-bed patients in 33 swing-bed hospitals and 215 nursing home patients in 41 nursing homes. Each patient had at least one of the following problems: confusion, incontinence, hip fracture, or stroke. The number of swing-bed and nursing home patients, respectively, for each problem cohort were: 112 and 132 with confusion, 134 and 137 with incontinence, 81 and 43 with hip fracture, and 54 and 49 with stroke. The sum of cases across the four problem cohorts exceeds the total number of patients since several patients had more than one of the four problems.

[b] The mean values for the process quality scores above are significantly different between swing-bed and nursing home patients combined at $p<.03$. Only the mean difference for physical therapy became insignificant after case mix adjustment.

[c] The notation in this column denotes whether the unadjusted mean for the process quality score for each problem cohort differed significantly ($p<.01$) between swing-bed and nursing home patients (for the service group). If a significant difference was found for a cohort, it is designated by a letter representing the cohort: confusion (C); incontinence (I); hip fracture (H); and stroke (S). The separate means and mean differences for each cohort are not given, but are in the same direction and approximately of the same order of magnitude as the means for all cohorts combined. A superscript n (^{n}) indicates that the case-mix regression adjustment eliminated the (unadjusted) significant difference for the cohort with $p>.10$.

The first three service groups correspond to services often appropriate for subacute patients. The fact that swing-bed hospitals had higher quality scores for these services is in keeping with the more subacute case mix associated with long-term care patients in hospital swing beds. Analogously, the final four service groups yielded higher quality scores for nursing homes than swing-bed hospitals. Since these four service groupings are typically more relevant to traditional long-term care patients, this result is also in keeping with the higher proportion of traditional long-term care patients in nursing homes.

Adjustment for case mix using the regression approach described above, when applied to the four cohorts combined, rendered only the average quality score differences for physical therapy (PT) insignificant between swing-bed patients and nursing home patients. The case mix adjustments also rendered insignificant the mean differences in PT quality scores for the confusion and incontinence cohorts, as shown in the last column in Table V.3. This column indicates the cohorts for which the unadjusted mean differences in quality scores are significant, with a further notation indicating whether the case mix regression adjustment changed the statistical significance for the cohort. Thus, after adjustment for case mix, the mean quality scores for PT were not significantly different between swing-bed patients or nursing home patients for any of the cohorts (or subcohorts, although the results for subcohorts are not presented).

For patients in the four cohorts combined, the other two subacute service groupings (groupings 2 and 3 in the table) were typified by higher average quality scores for swing-bed patients even after case mix adjustment. The pattern of higher quality scores for swing-bed patients for these two service groupings was also present in the confusion, incontinence, and hip fracture cohorts without case mix adjustment. However, case mix adjustment eliminated the significance of the subacute ADL cluster (grouping 2) in the incontinence cohort and of the subacute nursing cluster (grouping 3) in the hip fracture cohort.

The general pattern of significantly higher process quality scores for nursing home patients in the last four service groups (groupings 4-7), however, was relatively unchanged after case mix adjustment. In fact, the traditional ADL service group (grouping 4) and the personal care ADL service group (grouping 5) were significant before and after case mix adjustment for all cohorts combined and for each cohort individually. This was also true for the traditional nursing service group (grouping 6), except case mix adjustment rendered the higher average quality score for nursing home patients insignificant in (only) the hip fracture cohort.

The average quality score for the incontinence service cluster (grouping 7) remained significantly higher after case mix adjustment for nursing home patients in all four cohorts combined and, most importantly, for incontinent patients. However, the higher mean values for this service cluster were insignificant after adjusting for case mix in the confusion and hip fracture cohorts.

Overall, the process quality results suggest that swing-bed hospitals provide somewhat higher quality services in the areas of subacute ADL and nursing services (service groupings 2 and 3 in Tables V.2 and V.3). Higher case mix-adjusted average quality scores for nursing home patients in the areas of traditional ADL services, traditional nursing services, and incontinence services, however, are more pronounced (service groupings 4-7). Thus, it would appear that swing-bed hospitals provide certain types of subacute nursing services as well as, and probably slightly better than, nursing homes. On the other hand, it is even more clear that nursing homes provide traditional long-term care nursing services better than swing-bed hospitals.

In order to further assess the degree of service use as it relates to process measures of quality, the relative frequencies of five additional services were analyzed using data from the case mix random sample. The results are presented in Table V.4. The findings indicate that, relative to the average nursing home patient, the average swing-bed patient had considerably more physician visits, lab tests, x-rays, antibiotics for urinary tract infection, and intravenous medications. These are all services which tend to be needed for the more subacute cases and consequently reflect the more intense subacute case mix of swing-bed hospitals.

TABLE V.4: Selected Service Use Profiles for Long-Term Care Patients in Swing-Bed Hospitals and Nursing Homes, 1984 and 1985.[a]

Services Per Patient In Past Week	Mean for Swing-Bed Hospital Patients[b]	Mean for Nursing Home Patients[b]
No. Physician Visits	2.8	0.3
No. Lab Tests	1.4	0.3
No. X-rays	0.2	0.0
% Antibiotics for Urinary Tract Infection	5.3	1.5
% Intravenous Medications	4.7	0.0

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[a] Based on a sample of 552 patients in 33 swing-bed hospitals and 540 patients in 40 nursing homes.

[b] Mean differences are significant at $p<.001$.

The mean differences in the use of these services between swing-bed hospitals and nursing homes remained significant even after case mix adjustments.[6] From the viewpoint of resource consumption and potential overuse of services, these results therefore suggest possible inefficiencies or lack of cost consciousness in swing-bed hospitals. Potential overuse of physician and ancillary services is discussed further in the next chapter. However, from the viewpoint of quality of care, including accessibility to physician services and diagnostic services, as well as to services provided by highly qualified nurses, this utilization pattern also suggests higher quality subacute care in swing-bed hospitals. Site visits and conversations with providers further indicated that the frequency and use of such services leads to the prevention of hospitalization of swing-bed patients and to earlier discharge to independent living environments.

4. Structural Quality

The July 1982 regulations for the swing-bed program stated that, "Medicare SNF-type services in a swing-bed hospital shall be subject to the same eligibility and coverage requirements as services furnished in a participating SNF, except for those conditions that (1) duplicate existing hospital requirements, (2) require a facility to make extensive structural modifications or changes, or (3) are unnecessary in what is primarily a general routine inpatient hospital setting." (47 Federal Register at 31520.) The regulations went on to state that, "We have, however, kept the swing-bed requirements to a minimum, and the standards which we are including will be applied as flexibly as possible. We believe that swing-bed hospitals may have a lower daily census of long-term care patients than do nursing homes, and that patients in swing-bed hospitals are less likely to become long-term residents. We will consider these factors when surveying for compliance with the requirements." (Id.)

Considerable variation exists from State to State in the stringency with which SNF certification surveys are conducted and the conditions/standards enforced (S. Katz, 1986). Owing both to this existing variation, and to the variation in interpreting the above statements, the process of certifying swing beds for SNF care varies considerably from State to State. The regulations went on to emphasize six areas (either conditions or standards in SNF regulations) that should be required of swing-bed hospitals and that were not felt to impose a significant burden or rural hospitals. These areas were patient's rights, specialized rehabilitative services (that refer primarily to PT, speech therapy, and occupational therapy), dental services, social services, patient activities, and discharge planning. The SNF requirements of dining and patient activity rooms were not applied since, in some instances, this was thought to require extensive structural modifications for many hospitals. (47 Federal Register at 31520-31521.)

Site visits and discussions with certification agencies indicated that swing-bed hospitals in general tended to satisfy the patients' rights standard without any major problems. As discussed earlier, the frequency of written discharge plans for patients in the discharge random sample was greater for swing-bed hospitals than in nursing homes. The nature of the discharge, planning team is also discussed further below. Findings associated with the remaining areas of concern identified in the 1982 regulations are presented in Table V.5.

Table V.5 presents the compliance rates for selected Medicare SNF conditions of participation (or required services) for swing-bed hospitals in 1978 and 1984 and for comparison SNFs in 1978. As reported earlier, swing-bed hospitals were notably deficient relative to nursing homes in meeting the conditions of participation in 1978. It is clear that a higher proportion of swing-bed hospitals now comply with these conditions of participation than was the case in 1978. However, on-site verification suggests the compliance rates for 1984 are approximately 10-15% overreported, i.e., biased upward by about 10-15%. Despite this potential inflation of the compliance rates for swing-bed hospitals (especially for social services and patient activities) in 1984, it evident that swing-bed hospitals are now in substantially greater compliance with these key conditions of participation than was the case in the demonstration era.

TABLE V.5: Percentage of Facilities Meeting Selected Conditions of Participation by Type of Facility.[a]

	Compliance Rates by Facility Type[b]		
SNF Condition of Participation	81 Demonstration Swing-Bed Hospitals in 1978 (%)	33 Comparison SNFs in 1978 (%)	55 Swing-Bed Hospitals in 1984 (%)
Physical Therapy[c]	53%	100%	96%
Speech Therapy[c]	17	58	56
Occupational Therapy[c]	5	30	52
Dental Services	52	94	98
Social Services	36	97	98
Patient Activities	16	97	93

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[a] Data obtained from both provider surveys for hospital administrators and Medicare/Medicaid Skilled Nursing Facility Survey Reports.

[b] Differences between the 1978 demonstration hospitals and both the comparison SNFs and 1984 swing-bed hospitals are all significant at $p<.001$.

[c] These services do not refer to three separate SNF conditions of participation. Rather, they all fall under the specialized rehabilitation services condition. The facility is to have such services available, either through its staff or a contractual arrangement, as needed by patients to improve and maintain functioning. A facility is not required to offer such services if it does not admit or retain patients who need them.

Although not tabulated, the greater capacity of swing-bed hospitals to treat subacute patients was further reinforced by the significantly higher proportion of ancillary services available in swing-bed hospitals (relative to nursing homes) directly through the facility's staff (rather than through contracts with external providers) in the areas of PT, respiratory therapy, laboratory services, and x-ray services. Nursing homes had a significantly higher proportion of internal staff involved in the direct provision of social services than swing-bed hospitals, who contracted for such services more frequently than nursing homes. The surveys of directors of nursing in swing-bed hospitals and comparison nursing homes also dealt with the issue of staff involvement in care planning and discharge planning. The most important differences that were statistically significant between swing-bed hospitals and comparison nursing homes in this regard dealt with the involvement of dieticians, social workers, and activities directors in care planning. In swing-bed hospitals, dieticians were more frequently involved in care planning than in nursing homes, while social workers and activities directors were more frequently involved in care planning in nursing homes. Few differences existed in terms of staff involvement in discharge planning. The major difference was that physicians were somewhat more involved with discharge planning for swing-bed patients (82%) than for nursing home patients (64%), although the difference was only marginally significant (at p=.14).

C. SUMMARY OF FINDINGS

The discharge status, quality of care, and service use results in this chapter entailed comparing patient and care profiles for swing-bed patients and nursing home patients. The major findings are as follows:

1. Differences in the discharge status profiles for the two facility types parallel the differences in case mix between swing-bed and nursing home patients. Higher proportions of live discharges from swing-bed hospitals have urinary tract infections and ulcers of the skin than nursing home patients, suggesting less adequate care in these areas on the part of swing-bed hospitals. A higher percentage of swing-bed patients are discharged to nursing homes than is the case for nursing home patients, while a considerably higher proportion of nursing home patients are discharged to acute care than is the case for swing-bed patients.

2. Swing-bed patients with problems in the areas of confusion, incontinence, stroke, or hip fracture were discharged home sooner and more frequently than nursing home patients. This result persisted even after adjusting for case mix differences between patients from the two facility types.

3. Subacute nursing services were provided moderately better in swing-bed hospitals relative to nursing homes, while more traditional long-term care nursing services were provided better in nursing homes. For the most part, these differences persisted after adjusting for case mix differences.

4. Physician visits, x-rays, laboratory tests, and intravenous medications occurred substantially more frequently for swing-bed patients than for nursing home patients, even after adjusting for case mix differences.

5. Swing-bed hospitals are in compliance with the SNF conditions of participation more frequently now than was the case for swing-bed hospitals in the demonstration program in the 1970s. Concern continues to persist, however, that social services and patient activities may be inadequate, especially in those swing-bed hospitals where higher proportions of more traditional long-term care are provided.

6. In contrast to the deficiencies in the presence of written discharge plans for long-term care patients discharged from swing-bed hospitals in the 1970s, nearly all long-term care patients discharged from swing-bed hospitals at the present time have written discharge plans.

CHAPTER V NOTES

[1] Survival analysis involves constructing a curve that corresponds to the cumulative percentage of cases that "survive" until a certain time. In this case, the event of interest is discharge to independent living or home. Therefore, the analysis was designed to examine the relative proportion of swing-bed patients discharge to home as a function of time, adjusting for case mix differences between swing-bed and nursing home patients.

[2] The intent of the process quality analyses was to examine the quality of services provided to swing-bed and nursing patients according to the specific categories of services presented later. Quality scores were constructed such that higher values denote quality and then used to compare swing-bed care with nursing home care. These analyses also involved adjusting for case mix.

[3] These analyses are part of the RWJF component of the overall swing-bed study (see the discussion of the three major study components in Chapter 11). The results will be presented in a future report.

[4] See footnote 1 above.

[5] The quality scores tended to be approximately normally distributed, rendering the regression approach acceptable from the viewpoint of the underlying distribution of the dependent variable. Other methods, including estimating regression equations for the nursing home patients and then substituting case mix profiles for swing-bed patients into the nursing home regression equation were also employed, yielding approximately the same results as those described here.

[6] The case mix adjustments entailed ordinary regression and discriminant function/logistic regression methods akin to the ordinary regression methods mentioned in the above footnote.

CHAPTER VI

COST AND REIMBURSEMENT

A. INTRODUCTION

A major premise underlying the swing-bed program is that subacute care can be provided in acute care hospitals at relatively low cost, using the facilities, equipment, and personnel already available to serve acute care patients. Thus, hospitals are assumed to incur a relatively low, incremental cost to provide swing-bed care. Medicare and Medicaid swing-bed reimbursement is based on the incremental cost concept. The per diem reimbursement rate for swing-bed routine care is set by level of care for each State, at a rate equal to the State's average Medicaid rate for the prior calendar year. The key assumption is that the Medicaid rate adequately covers incremental cost.

Estimates of swing-bed incremental costs are particularly important to reimbursement policy. Since Medicare is the primary governmental purchaser of swing-bed care, this analysis focused on Medicare reimbursement issues. The reader should bear in mind that Medicare pays for swing-bed care only when the services rendered meet the same skilled nursing care criteria required for reimbursement of services furnished by SNFs. Although many of the analysis topics are relevant to Medicaid swing-bed policy as well, the variation in State programs makes generalizations difficult; especially as both skilled nursing and intermediate care services could be involved.

With regard to Medicare, the advent of the prospective payment system (PPS) altered swing-bed reimbursement and increased its financial attractiveness to hospitals. The original approach included a "carve out" method (Pennell, 1982) that reduced reimbursable costs for acute care by the amount of estimated swing-bed care payments received from all payers. Under PPS the carve out was only continued for capital and medical education reimbursement. Since routine operating cost reimbursement for acute care was no longer reduced, swing-bed care became financially more attractive to hospitals. Despite this change, hospital administrators surveyed during this study continued to indicate that reimbursement for swing-bed care was inadequate (Shaughnessy, Schlenker et al., 1985). The changed reimbursement environment and differing opinions regarding the adequacy of swing-bed reimbursement highlight the importance of estimating the cost of swing-bed routine care and of assessing the relationship of cost to revenues received.

Swing-bed ancillary service cost and reimbursement are also important. This, too, is primarily a Medicare issue, since Medicare is the major purchaser of ancillary services for swing-bed (an other nursing home) patients over age 65. From a reimbursement perspective, swing-bed hospitals can obtain additional ancillary revenues by providing such services to swing-bed patients. Since ancillary services for Medicare acute patients are now part of the DRG payment, a financial incentive exists to shift patients from acute to swing-bed status quickly, and to maximize the provision of ancillary services in that setting. These changes in the ancillary reimbursement environment were the basis for the analysis of swing-bed ancillary costs and reimbursement carried out in this study.

From a program management perspective, two important items are the total outlays for swing-bed care and any savings resulting from such care compared to alternative SNF placement. Such estimates were developed as part of this study and are presented in this chapter.

Although the primary cost and reimbursement analyses focused on the swing-bed hospital, the physician plays a key role in the swing-bed program. The physician's decisions regarding patient placement and services are critical to the overall outcomes of patient care as well as to swing-bed cost and utilization. Since physician reimbursement policies, particularly limits on the number of visits reimbursed by Medicare, may affect physician behavior regarding swing-bed care, this area was also examined in this study.

Finally, PROs are emerging as key actors with regard to swing-bed care. Since PRO decisions affect placement and reimbursement, their role is important to assess. Although a subsequent component of this study will examine PROs in relation to swing-bed care in greater depth, some preliminary work was carried out for this study component.

Findings on the above issues are summarized in the next section. Medicare cost reports comprised the major data source for these analyses. Cost report data were, however, supplemented by other data sets and by information gained through several surveys and detailed case studies of eight swing-bed hospitals.

B. FINDINGS

The primary data set utilized for the cost and reimbursement analyses drew on fiscal year 1982 and 1984 Medicare cost reports and related information for a sample of 150 hospitals (75 swing-bed and 75 comparison hospitals), located in 27 States. The comparison hospitals were eligible for but not participating in the swing-bed program and were located in the same (or nearby) States as the sample swing-bed hospitals. Swing-bed hospitals in the sample were generally representative of all swing-bed hospitals in 1984, and the two groups of hospitals (swing-bed and comparison) were similar in terms of most characteristics, particularly their cost structures, prior to the start of the swing-bed program in 1982.[1] Of the 75 swing-bed hospitals, 69 reported swing-bed utilization in 1984, with swing-bed days ranging from 42 to 4,285, and averaging 1,145 days.[2] The primary incremental cost estimates were derived using this subsample of 69 hospitals.

1. Incremental Routine Costs and Reimbursement

In the Medicare cost reports, the cost of swing-bed care is included with all other routine care costs. Incremental cost estimation methods therefore had to identify the costs of care provided to swing-bed patients. The demonstration project evaluation (Shaughnessy et al., 1980) developed an accounting estimation methodology that allocated the costs of selected overhead cost centers to routine care, and then apportioned the resulting costs to swing-bed care using the ratio of swing-bed to total inpatient days. The same methodology was utilized in this study and expanded to include additional overhead cost centers as well as additional allocation and apportionment methods.

The major accounting methods used are summarized in Table VI.1. Regression techniques were also applied using both the swing-bed and comparison hospital samples to estimate and compare cost functions for routine care. In regressions involving the swing-bed hospital sample, variables were included to separate the effects of swing-bed care. In the following presentation, emphasis is placed on the accounting method results. the regression methods were used primarily to support and help interpret the accounting method findings. The resulting estimates also combine the skilled and intermediate levels of care but pertain primarily to skilled care since, as noted in earlier chapters, most swing-bed patients receive skilled care.

TABLE VI.1: Allocation and Apportionment Methods Used to Estimate Swing-Bed Incremental Routine Cost.

Overhead Cost Centers Allocated to the Routine Cost Center	Allocation Basis	Apportionment Method[a] and Cost Centers Included		
		Method 1	Method 2	Method 3
Administrative and General	Cost Net of Admin. Cost		DD1	DD2
Maintenance and Repairs	Revenue-Producing Square Feet	DD1	DD1	DD2
Operation of Plant	Revenue-Producing Square Feet	DD1	DD1	DD2
Laundry and Linen	Pounds of Laundry	DD1	DD1	DD1-2[b]
Housekeeping	Revenue-Producing Square Feet	DD1	DD1	DD1-2[b]
Dietary	Meals	DD1	DD1	DD1-2[b]
Nursing Administration	Nursing Time		DD1	DD2
Central Services and Supply	Costed Supply Requisitions			DD2
Medical Records	Revenue-Producing Net Cost		DD1	DD2
Social Service	Revenue-Producing Net Cost		DD1	DD2
Direct Routine Cost		DD1	DD1	DD2

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[a] Method used to attribute (apportion) costs to swing-bed care. Key: DD1 = the swing-bed to total routine days ratio; DD2 = the square of the swing-bed to total routine days ratio. Methods 1 and 2 include only nonlabor costs. Method 3 includes both nonlabor and labor costs.

[b] Under this method, the DD1 ratio is used for nonlabor and the DD2 ratio for labor in these cost centers.

The incremental routine cost estimates derived from the three accounting methods are presented in Table VI.2. The averages ranged from \$22.11 to \$34.05 per day. Methods 1 and 2 assumed that only nonlabor costs vary with swing-bed care, and costs were attributed (apportioned) to swing-bed care by assuming that acute and swing-bed patients incur the same costs in the cost centers shown in Table VI.1 (i.e., days-to-days apportionment). The major difference between the two methods is that method 2 added costs from four additional overhead cost centers, the most costly of which was the administrative and general cost center. The added costs of method 2 were judged to be reasonable components of swing-bed incremental costs.

The average for method 3 was close to that for method 2 but its derivation was different. Method 3 incorporated labor, but apportioned costs to swing-bed care in a different manner than the other methods. The basic concept underlying method 3 is that costs are apportioned to swing-bed care in the same proportion as the square of the ratio of swing-bed to total inpatient days. Thus, if swing-bed days represented 50% of total days, 25% of costs were attributed to swing-bed care. This apportionment method resulted in low swing-bed costs per day for hospitals with low swing-bed volume and higher costs per day for higher volume hospitals. Exceptions to this apportionment method were made for the nonlabor costs in the laundry, housekeeping, and dietary cost centers. Nonlabor costs in these categories were assumed to be the same for swing-bed and acute care patients and so were apportioned using the days-to-days ratio. The results from this apportionment method were consistent with anecdotal evidence and findings from other investigations undertaken on the study.[3]

Because the average values for methods 1-3 were influenced by high estimated values for a few hospitals, distributional statistics are also presented in Table VI.2. The medians were lower than the means for all three methods, and most hospitals had estimated incremental costs of less than \$40 per swing-bed day (for methods 1-3, 90%, 77%, and 70% of the hospitals, respectively, had estimated incremental costs under \$40 per swing-bed day). This suggests that the averages somewhat overstate the incremental costs actually incurred by most swing-bed hospitals.[4] Nevertheless, to allow for the imprecision involved in any estimation method and the possibility that the ones used did not fully capture the added costs resulting from the provision of swing-bed care, the average values are used in the subsequent discussion, and greater weight is given to the estimates derived from methods 2 and 3, which yielded average costs of \$32.69 and \$34.05 per swing-bed day.

The incremental cost estimates for routine care presented in Table VI.2 were compared to estimates of revenues received by swing-bed hospitals to assess whether swing-bed revenues covered the incremental costs of swing-bed care. Although reliable data on swing-bed revenues from all payers were not available from the cost reports, estimates were derived from the swing-bed adjustment utilized in the Medicare carve out procedure. That procedure applies to average State Medicaid rates for the prior year by level of care to all swing-bed patients.[5] Since Medicare and most Medicaid programs reimburse using these rates, the resulting revenue estimates were fairly accurate for Medicare and Medicaid. For

TABLE VI.2: Swing-Bed Incremental Routine Cost and Revenue Per Day, for 69 Swing-Bed Hospitals, 1984.

	Method 1[a]	Method 2[b]	Method 3[c]
Estimated Routine Cost Per Day			
Mean	\$22.11	\$32.69	\$34.05
Median	18.35	27.55	32.30
1st Quartile	13.57	20.26	21.05
3rd Quartile	25.83	38.47	42.32
Routine Revenue Per Day[d,e]	44.10	44.10	44.10
Revenue Minus Estimated Cost[f]	21.99	11.41	10.05
Revenue Minus Cost, Adjusted for the Capital and Medical Education Carve Out[g]	20.30	9.72	8.36

---

[a] Method 1 includes only nonlabor costs. Overhead costs are allocated from the following cost centers: maintenance and repairs, operation of plant, laundry and linen, housekeeping, and dietary. The resulting routine cost (including allocated overhead amounts) is then attributed (apportioned) to swing-bed care using the ratio of swing-bed to total routine (acute plus swing-bed) days.

[b] Method 2 extends method 1 by allocating overhead costs from the additional cost centers of administrative and general, nursing administration, medical records, and social service.

[c] Method 3 includes an additional overhead cost center (central services and supply), adds labor costs, and uses a different apportionment method. The apportionment method for nonlabor overhead costs for laundry and linen, housekeeping, and dietary remains the days-to-days ratio, assuming that such costs are similar per day of acute or swing-bed care. All other nonlabor and labor costs are attributed to swing-bed care using the square of the days-to-days ratio.

[d] This is the average routine revenue per day estimated for each hospital in the swing-bed adjustment process of the Medicare cost report. This estimate assumes that all swing-bed days (regardless of payer) are paid at the statewide average Medicaid rates for the prior calendar year by level of care (skilled and intermediate).

[e] One hospital had missing data for this variable. That case was assumed to have the average revenue value derived for the remaining 68 cases.

[f] These values were calculated as the average routine revenue amount for all hospitals minus the average estimated routine cost for all hospitals.

[g] Medicare reimbursement for acute capital and medical education costs deducts (carves out) a portion of such costs as attributable to swing-bed care. The proportion of the carved out amount that represents a reduction in revenue to a swing-bed hospital is equal to the ratio of Medicare to total acute care days in the facility. The average reduction for the 69 swing-bed hospitals was \$1.69 per swing-bed day.

other payers and private patients, these rates were reasonable estimates, according to information from swing-bed providers and other sources. The resulting swing-bed revenues ranged from $29.34 to $107.00 and averaged $44.10 per day.[6]

The average revenue per day was compared to the three incremental cost estimates, with the results shown in Table VI.2. Average revenues were found to exceed average costs by $10 to $22 per day. For methods 2 and 3 (considered the more realistic estimates), revenues exceeded costs by average per diem amounts of $11.41 and $10.05, respectively. Although the averages indicated overall financial gains for swing-bed hospitals, several hospitals with such losses were 2, 11, and 22 for methods 1-3, respectively. For methods 1 and 2, losses were slightly associated (correlated) with low swing-bed volume, while for method 3 losses were associated with high volume. The association of cost and revenue with volume is discussed further below.

The last row in Table VI.2 adjusts the financial gain (or loss) to incorporate the capital and medical education carve out applied by Medicare. The procedure, described in the note go to the table, reduces Medicare acute care reimbursement. The reduction depends on total capital costs, the ratio of estimated swing-bed to total routine costs, and the proportion of acute care days that are medicare days. These reductions varied across the sample hospitals from zero to $9.69 and averaged $1.69 per swing-bed day. With this adjustment, the average financial gain dropped to $9.72 for method 2 and $8.36 for method 3, and the numbers of hospitals with losses increased slightly to 4, 16, and 23 under methods 1-3, respectively. Thus, these findings suggest that in 1984 most swing-bed hospitals obtained revenues somewhat above estimated incremental costs, even with the adjustment for the capital and medical education carve out.[7] However, a significant minority (possibly as many as one-third) appears to have sustained losses on swing-bed care. These losses may relate to the volume of swing-bed care provided, as discussed next.

The association of swing-bed cost and volume is important to both hospitals and policymakers. Beyond a certain swing-bed volume, that portion of a swing-bed hospital used to provide swing-bed care (be it physically distinct or simply a fraction of total resources available) may be functioning almost as a nursing home in terms of resources consumed and its overall cost structure. In such circumstances, the creation of a (certified) distinct part unit may be advisable.

Since most sample hospitals provided relatively small amounts of swing-bed care in 1984, the association between volume and cost was difficult to determine. The different incremental cost estimation methodologies yielded different relationships between cost and volume. Methods 1 and 2 yielded estimated per diem costs that declined as swing-bed volume increased, while method 3 costs were positively associated with volume.[8] Further analyses suggested the most likely relationship was for incremental costs (particularly labor costs) to increase with volume, and that methods 1 and 2 tended to overestimate costs at low volumes and underestimate them at high volumes. Method 3 appeared to have the most reasonable pattern of results (see footnote 3), and the following estimates of the association of swing-bed cost with volume is therefore based on the method 3 approach.

Table VI.3 presents regression-based estimates of the average and marginal swing-bed cost per day at different volumes of swing-bed days. The equations relating average and marginal costs to swing-bed volume are shown in the footnotes to the table. The marginal cost column of the table indicates the added cost for each additional swing-bed day of care at different volumes. Similarly, the average cost column shows the average cost per day of all swing-bed days at those volumes. For instance, based on these equations, a hospital providing 1,000 days of swing-bed care had an average 1984 cost of $32.19, and a marginal cost (for each additional swing-bed beyond 1,000) of $43.19.

TABLE VI.3: Swing-Bed Volume and Cost: Illustrative Average and Marginal Swing-Bed Incremental Routine Cost per Day, Using Method 3 Estimates for 69 Swing-Bed Hospitals, 1984.

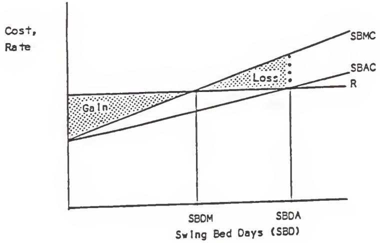
Swing-Bed Days	Average Cost[a]	Marginal Cost[b]
500	$26.69	$32.19
1000	32.19	43.19
1500	37.69	54.19
2000	43.19	65.19
3000	54.19	87.19

---

[a] These estimates are based on the estimated regression equation: $SBAC = 21.186 + .011(SBD)$, where SBAC = estimated Method 3 average incremental routine cost per day, the constant term is actually several facility characteristics estimated at mean values, and SBD = swing-bed days. The R^2 for this equation was .461.

[b] Using the equation in the preceding footnote for the average cost per swing-bed day, the marginal costs of each added swing-bed day can be derived as $SBMC = 21.186 + .022(SBD)$.

FIGURE VI.1: Illustrative Break-even Swing-Bed Volume Levels, Using Method 3 Incremental Routine Cost Estimates for 69 Swing-Bed Hospitals, 1984.



Swing-Bed payment Rate Per Day (R)	Swing-Bed Days[a] Marginal Cost Break-even Volume[b] (SBDM)	Average cost Break-even Volume[c] (SBDA)
$30	401	801
40	855	1710
45	1082	2165
50	1310	2619
60	1764	3529

---

[a] Swing-bed days (volume) were calculated using the illustrative SBMC and SBAC equation presented in Table VI.3.

[b] At volume SBDM, the rate (R) paid just covers marginal cost (SBMC). At higher volumes, eac additional swing-bed day costs more than the rate paid.

[c] At volume SBDA, average cost (SBAC) equals the rate (R) and the hospital is breaking even on it swing-bed care in total (i.e., Gain = Loss in the diagram). At higher volumes, the hospital wil experience an overall loss on swing-bed care.

These estimated relationships were used to examine the relationship between financial gain (or loss) and volume. Figure VI.1 presents the marginal and average cost concepts graphically and relates these to alternative payment rates per day of care. Using the equations developed for Table VI.3, "break-even" volumes were calculated for marginal and average costs at different payment rate amounts. For instance, at the average 1984 payment amount of about $45 per day, the average hospital was estimated to have incurred a loss for each additional swing-bed day beyond 1,082. Overall, however, the provision of swing-bed care would still have resulted in a net financial gain to such hospitals, until the point at which the average cost exceeded the payment rate; i.e., at about 2,165 days. Although these estimates must be considered approximations, they suggest that around 1,000 swing-bed days (which was the average number of swing-bed days per hospital in 1985, as noted in Chapter III) was close to the estimated marginal cost break-even volume.

Of course, swing-bed hospitals do not base decisions solely on financial factors, and many do not make such precise calculations as illustrated here. Nevertheless, these findings suggest that unless hospitals can keep marginal cost from increasing with volume, they will benefit financially from the provision of swing-bed care mainly at low volumes. This may be appropriate from a policy perspective, since one hospitals provide high volumes of swing-bed care, it may be advisable for them to establish distinct part units. This will be discussed further in Chapter VII.

2. Swing-Bed Compared to Nursing Home SNF Costs

An important Medicare reimbursement policy question is whether swing-bed care is less or more costly than comparable nursing home care, particularly in the PPS environment. To answer this question, estimates were developed, which are presented in Table VI.4, of the cost to Medicare of skilled-level care in swing-bed hospitals compared to rural SNF units (freestanding and hospital-based) in 1984. The SNF swing-bed routine operating cost payment rates were averaged for all States. A weighted average rate was also derived using the number of Medicare swing-bed patient days for each State from the cost report sample. In both estimates, the average capital and medical education carve-out deduction per Medicare swing-bed day was subtracted in order to derive rates that would be comparable to the alternative SNF rates, which also include a capital component.

HCFA data on the Medicare routine operating cost limits in rural areas for freestanding and hospital-based SNFs were used to obtain estimates of average routine operating costs for the 1983-84 fiscal period covered by the sample Medicare cost reports. Mean values were derived for each State to approximate alternative Medicare SNF reimbursement amounts. The results were averaged in the same two ways as were the swing-bed rates. Capital reimbursement estimates (including a return on equity for proprietary facilities) were added to the estimated average operating costs. (Further details are provided in the notes to Table VI.4.)

TABLE VI.4: Medicare per Diem SNF Routine Care Reimbursement for Rural Swing-Bed, Freestanding, and Hospital-Based Units, 1984.

	Swing-Bed	Freestanding	Hospital-Based
Average State Rates	\$43.52[a]	\$51.51[b]	\$79.60[b]
Weighted Sample Average Rates[c]	43.04	49.77	68.76

Medicare Saving Per Swing-Bed Day[d]

Free-Standing (%)	Hospital-Based (%)	Swing-Bed Rate	Alternative Rate	Saving Per Day of Swing-Bed Care
100%	0%	\$43.04	\$49.77	\$ 6.73
50	50	43.04	59.27	16.23
0	100	43.04	68.76	25.72

---

[a] Swing-bed reimbursement rates for 1984 (SNF level) were obtained from HCFA regional offices and individual State Medicaid programs. These rates were averaged across States and then reduced by the average Medicare acute capital and medical education reimbursement deduction per Medicare swing-bed day. The reduction was noted in Table VI.2 to average \$1.69 per all-payer swing-bed day. For this sample, that amount converts to 4.87 per Medicare swing-bed day, which is the appropriate measure to use in comparing Medicare reimbursement in alternative settings.

[b] The average operating costs for rural freestanding and hospital-based Medicare SNFs were estimated using data from the Medicare cost limit derivations for hospital-based SNFs for 1982-84 and for freestanding and hospital-based SNFs for 1986, both published in the Federal Register, Vol. 51, No. 62, April 1, 1986, pp. 11234 - 11264. For each set of limits, rural mean cost values were derived, inflated or deflated to the fiscal period 10/1/83 - 9/30/84, adjusted by the appropriate State rural wage index for labor cost components, and averaged across States. Capital-related costs (including return on equity, ROE) were estimated from the calculations underlying the 1986 Medicare SNF prospective payment rates for rural areas (see Medicare Provider Reimbursement Manual, Part I, Transmittal No. 337, HCFA-Pub. 15-1, August 1986). The capital-related cost data were assumed to approximate reasonably well the capital-related amounts for SNFs in 1984. The capital cost data were derived for each State, averaged across States, then adjusted to mean values. Since the variation across States was minimal, the resulting State rural average of \$4.70 per patient day was used for this table. The Medicare return on equity rural average for 1984 was estimated as \$1.16 per day. Since most freestanding SNFs are proprietary and most hospital-based are not, the \$1.16 ROE was included in the capital-related estimate for freestanding SNFs and excluded for hospital-based units.

[c] The weighted rates were calculated using the number of Medicare swing-bed days reported by the 64 of the 69 swing-bed hospitals in the cost report sample with Medicare swing-bed days in fiscal year 1984. For the swing-bed, freestanding, and hospital-based operating cost reimbursement components, each State rate was weighted by the number of Medicare swing-bed days in the sample facilities for that State. The capital components were then incorporated in the same manner as was done for the average State rates.

[d] This calculation uses the weighted sample average rates and assumes that patients not receiving swing-bed care would receive the same number of days of Medicare SNF care in either freestanding or hospital-based rural facilities, with Medicare reimbursement at the average Medicare rural SNF cost. Alternative distributions of those SNF days between freestanding and hospital-based units are presented.

The weighted rates were used to estimate the differences between the swing-bed payment per day and likely alternatives for swing-bed patients. In view of the fairly intense case mix of swing-bed patients (discussed in Chapter IV), it was assumed that such patients would typically need care in hospital-based rather than freestanding facilities.[9] If the alternative was hospital-based care for all swing-bed patients, then the estimated Medicare saving from the swing-bed program per day in 1984 was $25.72. If the swing-bed patients had been equally divided between freestanding and hospital-based rural Medicare SNF facilities, then the Medicare saving was $16.23 per day. Even if all swing-bed patients had alternatively been in freestanding units, a highly unlikely event, Medicare would still have obtained a saving of $6.73 per Medicare swing-bed day. Thus, these comparisons suggest that swing-bed care resulted in reduced costs to Medicare. Using the equal split between hospital-based and freestanding units as a reasonable possibility, the amount of the saving to Medicare would have been about $16 per Medicare swing-bed day in 1984.[10]

The Medicare saving may have been greater than estimated for two reasons. First, a substantial portion of wing-bed patients might have alternatively received care in urban SNF facilities, at correspondingly higher rates. The results from the community retention analyses in Chapter IV Indicate that a reasonably large number of patients who would have received SNF care in more distant urban areas now receive such care in swing beds in rural communities. Second, in the absence of the swing-bed program, nursing home construction or expansion might have increased, with correspondingly higher capital costs.[11] The preceding estimates included average capital costs for nursing home care. Newly constructed or expanded facilities would have higher capital costs. For example, Finkler (1987) estimated the capital costs of new nursing home construction at around $10.90 per patient day. This amount would represent an increase over the capital estimates in Table VI.4 of $6.20 per patient day. This indicates the likely order of magnitude by which the estimated savings the table should be increased to the extent that nursing home construction or expansion was prevented.

3. Incremental Ancillary Costs and Reimbursement

Medicare swing-bed ancillary cost and charge information was available in the cost reports.[12] Originally, 19 ancillary cost centers were examined. Nine of these combined had average Medicare ancillary reimbursement amounts of less than 10¢ per Medicare swing-bed day. Of the remaining 10 services, several had highly skewed distributions. The criterion that at least 10 hospitals had to have ancillary reimbursement amounts per Medicare swing-bed day of greater than 1¢ led to the removal of three more services (intravenous therapy, occupational therapy, and speech therapy). Electrocardiology was eliminated because relatively few hospitals reported swing-bed utilization for this service, and the average reimbursement was only 7.4¢ per Medicare swing-bed day. The remaining six ancillary services, listed in Table VI.5, were thus the major swing-bed ancillary services reimbursed by Medicare.

The incremental cost estimation methodology applied to ancillary services was similar to that used for routine care. Although overhead costs were allocated to the ancillary departments, they represented smaller portions of ancillary service costs than was the case for routine care. Also, for five of the six ancillary services, charges for Medicare swing-bed patients represented less than 5% of total charges for that service. The exception was physical therapy (PT), for which Medicare swing-bed charges averaged 12.6% of total PT charges in the average swing-bed hospital. Thus, the costs of ancillary services to swing-bed patients were expected to be incremental in nature and fairly small.

Table VI.5 presents the estimated incremental Medicare swing-bed ancillary costs, based on three accounting methods that were analogous to those used for routine care (details are provided in the notes to the table). Results are presented for 58 swing-bed hospitals because several hospitals with small numbers of Medicare swing-bed days had extreme outlier values for ancillary services. Thus, hospitals with 31 or fewer Medicare swing-bed days (i.e., 1 month or less) were excluded from this analysis.

The table indicates a range in total incremental ancillary cost of between $16 and $21 per Medicare swing-bed day. The range of the three estimates is narrower than for routine care largely because of the lesser importance of overhead costs in the ancillary area. In addition, these estimates showed little variation with swing-bed volume.

Table VI.5 also compares the Medicare reimbursement amounts per day to the estimated incremental costs. The average net gain from ancillary services ranged from $10.75 for method 3 to $15.71 for method 1. Methods 2 and 3 were taken as the more conservative estimates of costs (i.e., more likely to include all costs relevant to swing-bed care). For these methods, the average net gain was between $11 and $13. Thus, it appears that ancillary service reimbursement adequately covered the estimated incremental cost of such services for sample hospitals in 1984.

Concerns have arisen over the potential for swing-bed hospitals to "game" the use of ancillary services, possibly overproviding them in order to increase Medicare reimbursement. Such incentives increased with the shift to prospective payment for acute care and the inclusion of acute ancillary services in the DRG per case payment. This issue was examined to the extent possible in this study.

The patient-level results reported in Chapter V indicated a higher use of some ancillary services (e.g., x-ray and lab services) by swing-bed compared to nursing home patients. The difference persisted after adjusting for case mix, which could reflect either higher quality care or overprovision of services by swing-bed hospitals. Cost report data could not be used to compare the cost of ancillary services by swing-bed compared to nursing home patients, since many such services to SNF patients are provided outside the facility and reimbursed separately (i.e., not as part of the SNF's cost report). However, for the study sample it was possible to compare the amounts reimbursed for swing-bed ancillary services with the amounts that would have been reimbursed for the same services to acute care patients prior to PPS.[13] These comparisons are presented in Table VI.6. As is evident from the table, total ancillary costs per day for these six services were more than three times greater for acute than for swing-bed services. Considerably greater use and cost per day by acute care patients was evident for

TABLE VI.5: Medicare Swing-Bed Incremental Ancillary Cost and Reimbursement per Day, for 58 Swing-Bed Hospitals, 1984.

	Mean $ Values per Medicare Swing-Bed Day		
Ancillary Cost Center	Method 1[a]	Method 2[b]	Method 3[c]
Radiology	$ .48	$ .58	$ .59
Laboratory	1.90	2.35	2.39
Respiratory Therapy	1.95	2.32	2.45
Physical Therapy	4.69	5.70	6.65
Medical Supplies	2.40	2.78	3.02
Drugs	4.42	5.12	5.70
TOTAL	$15.84	$18.85	$20.80
Medicare Ancillary Reimbursement Per Day	31.55	31.55	31.55
Reimbursement Minus Estimated Cost	15.71	12.70	10.75

---

[a] Method 1 is analogous to method 1 for routine care. It allocates the same overhead cost centers as routine method 1, but apportions to swing-bed care on a charges-to-charges (rather than a days-to-days) basis. (That is, the ratio of Medicare swing-bed charges to total ancillary charges, by cost center, is used to attribute the costs of a particular ancillary cost center to Medicare swing-bed patients.) Only nonlabor costs are included.

[b] Method 2 is analogous to method 2 for routine care, including the same overhead cost centers as routine method 2, but using the charges-to-charges apportionment method. Method 2 also includes only nonlabor costs.

[c] Method 3 is similar to method 3 for routine care. It includes all routine method 3 overhead cost centers, plus the pharmacy cost center (which is entirely allocated to the drugs ancillary cost center). The apportionment to swing-bed care includes both nonlabor and labor. Nonlabor is apportioned on a charges-to-charges basis, while labor is apportioned using the square of the charges-to-charges ratio.

five of the six individual services. The exception was PT, which was more heavily utilized by swing-bed patients. This appears reasonable, given the importance of physical therapy for rehabilitation of subacute long-term care patients.

TABLE VI.6: Medicare Acute and Swing-Bed Costs Per Day for the Six Major Swing-Bed Ancillary Services, for 58 Swing-Bed Hospitals, 1984.

Ancillary Cost Center	Acute Costs[a]	Swing-Bed Costs[b]
Radiology	$ 11.56	$ 1.01
Laboratory	33.54	4.08
Respiratory Therapy	15.02	3.94
Physical Therapy	3.46	11.06
Medical Supplies	17.58	4.84
Drugs	22.19	6.62
TOTAL	$103.35	$ 31.55

---

[a] These are Medicare Part A inpatient acute costs for each ancillary cost center, as determined in the Medicare cost reports, after allocation and apportionment. They are no longer separately reimbursed for PPS hospitals, but are covered under the DRG payment. Nevertheless, the cost estimates are useful here for comparative purposes.

[b] These are Medicare swing-bed ancillary costs, as determined in the Medicare cost reports, after allocation and apportionment (i.e., they are not the incremental cost estimates reported earlier, but the amounts actually reimbursed).

Therefore, despite a few isolated cases where anecdotal evidence suggests gaming occurred, on the average it does not appear that swing-bed hospitals in 1984 engaged in such activities. However, to guard against this possibility in the future, overall limits on ancillary service costs for swing-bed patients are suggested for consideration in Chapter VII.

4. Program Expenditure Estimates

Table VI.7 presents estimates of expenditures for swing-bed care by Medicare and Medicaid. These were estimated for 1985, using survey information on nation-wide utilization by payer combined with estimated payment rates by level of care. Total estimated routine care expenditures for Medicare and Medicaid combined were approximately $17.9 million, with $15.8 million paid by Medicare and $2.1 million paid by Medicaid. These expenditure estimates do not include program administration costs, since other analyses (see Chapter III) indicated these costs were inconsequential relative to the total outlays presented in the table. By way of comparison, the estimated Medicare routine swing-bed expenditures represented approximately 2.6% of the 1985 Medicare SNF expenditures of $600 million. Medicaid swing-bed expenditures represented less than .02 of 1% of the total Medicaid nursing home expenditures in 1985 of $14.7 billion (Waldo, Levit, Lazenby, 1986).

In reviewing the total expenditure estimates, it should remembered that Medicare swing-bed expenditures were earlier estimated to represent a saving over what expenditures would have been had the Medicare patients obtained care in other

TABLE VI.7: Estimated Medicare and Medicaid Expenditures for Swing-Bed Care, 1985.

Routine Care	Days[a]	Expenditures[b,c]
Medicare	314,824	$15,814,000
Medicaid	51,359	2,130,000
Ancillary Services	**Days[a]**	**Expenditures[b,d]**
Medicare	314,824	$10,279,000

---

[a] Survey data for 1985 were utilized to estimate swing-bed days by payer. The average swing-bed hospital participating in the program provided 472 Medicare, 32 Medicaid SNF and 45 Medicaid ICF swing-bed days. Since 97% of the 688 certified swing-bed hospitals as of July 1985 were estimated as providing swing-bed care, the days per hospital were multiplied by 667 to derive the total days by payer.

[b] These estimates are rounded to the nearest $1,000 and exclude program administration costs incurred by certification and review agencies, fiscal intermediaries, and related organizations, since such costs were found in earlier surveys to be small relative to the total expenditures presented here (see Shaughnessy, Schlenker et al., 1985).

[c] To estimate routine care expenditures, the average Medicare swing-bed routine rate was derived as the 1985 routine Medicare reimbursement rate by State, weighted by the number of certified swing-bed hospitals in each State. This rate of $50.23 was also used for Medicaid skilled level swing-bed patient days. The weighted ICF rate of $35.26 was used for the remaining Medicaid days.

[d] Only Medicare ancillary expenditures were estimated since nearly all swing-bed ancillary services are paid by Medicare. The average per diem rembursement amount of $31.55 from the 1984 cost report sample was inflated to $32.65 for 1985 (using the HCFA inflation factor of 3.5%) and multiplied by the estimated number of 1985 Medicare swing-bed days.

rural hospital-based or freestanding SNFs. The saving was estimated at around $16 per Medicare swing-bed day for 1984 (assuming swing-bed patients would otherwise have been equally divided between freestanding and hospital-based rural Medicare SNF units), with higher savings to the extent that swing-bed patients would otherwise have been in urban hospital-based facilities or in newly constructed or expanded nursing homes. The per diem savings would possibly have been slightly lower in subsequent years due to the lower limits in Medicare hospital-based SNF cost reimbursement. Using $16 per day as an approximation, Medicare routine care SNF expenditures would have been about $5 million greater in 1985 without the swing-bed program.

Table VI.7 also presents estimated Medicare expenditures for swing-bed ancillary services in 1985 of $10.3 million. Medicare routine and ancillary swing-bed expenditures together amounted to $26.1 million, of which 61% was for routine care and 39% for ancillary services.

5. Physician Reimbursement

In view of the critical role physicians play in the swing-bed program, physician reimbursement policies and their possible impacts on physician decisions regarding the swing-bed program were analyzed. Physicians participating in the swing-bed program were surveyed several times during this study. To update the information on physician reimbursement issues, 38 physicians in 8 States were contacted in late 1986. The main purposes of these contacts were to assess differences in the numbers of physician visits to acute compared to swing-bed and nursing home patients and to examine the relationship between the frequency of visits and Medicare reimbursement policies, particularly with regard to the maximum numbers of reimbursable physician visits.

On the average, the physicians surveyed visited their acute care patients slightly over nine times per week, compared to four times per week for swing-bed patients and only once a month for nursing home patients.[14] (These data were all for visits to Medicare patients.) The physicians typically indicated that medical need, not reimbursement policy, determined how often they visited patients. In many cases, the numbers of visits exceeded the maximum numbers reimbursed by Medicare, particularly for swing-bed care.

The limits on Medicare reimbursable visits were found to vary considerably by carriers. Contacts with eight Medicare Part B carriers in late 1986 resulted in the information presented in Table VI.8. The carriers were fairly uniform with regard to acute and nursing home visit limits. Generally, one visit per day was allowed for acute care patients and one visit per month for nursing home patients (medical necessity was always available as an exception). Greater variation was found for swing-care care. At one extreme, the swing-bed visit limit was the same as for acute care. At the other extreme, it was the same as for nursing home care. Most carriers had limits between these two extremes, often at once per week, with two visits allowed during the first week.

Although the limits on reimbursable physician visits to swing-bed patients were found to typically be one to two visits per week, the survey data indicated that the average physician visited swing-bed patients at least twice that often. Most physicians indicated that they did not bill patients for the extra visits, even if they were not on assignment. In many cases such visits were quite short and carried out as part of the physicians normal hospital rounds, and for such visits, additional reimbursement may not be necessary. However, most physicians felt that the swing-bed patients were considerably sicker than nursing home patients and much closer to acute patients in their need for observation and care.

This information was drawn from a relatively small sample of physicians and carriers, but the results were consistent with findings from the case studies and other surveys. The findings suggest that a more uniform policy regarding Medicare limits on reimbursable physician visits to swing-bed patients may be appropriate. Further, in view of the more intense case mix of, particularly, Medicare swing-bed patients compared to nursing home patients, visit limits closer to those for acute care deserve consideration. This topic is discussed further in Chapter VII.

TABLE VI.8: Medicare Limits on Physician Visits to Acute, Swing-Bed, and Nursing Home Patients, for Selected Medicare Part B Carriers.[a]

Carrier Location	Acute Care	Swing-Bed Care	Nursing Home Care
California	31 visits/month	Same as acute	1 visit/month
Kansas	1 visit/day up to DRG length of stay	2 visits during the 1st week and 1 visit/week thereafter	1 visit/month
Minnesota	31 visits during the 1st month and 31 visits over the following 3 months	2 visits during the 1st week and 1 visit/week thereafter	Skilled = 1 visit/week; Unskilled = 1 visit/month
Mississippi	2 visits/day	1 visit/week	Skilled = 1 visit/month
Missouri	1 visit/day	Same as acute	Skilled = 1 visit/month
Montana	1 visit/day, up to DRG length of stay	5 visits/month	1 visit/month
North Dakota	1 visit/day	2 visits during the 1st week and 1 visit/week thereafter	Skilled = same as swing-bed; Intermediate = 1 visit/month
Wisconsin	1 visit/day	1 visit/month	1 visit/month

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[a] These limits apply to the common and expected visit patterns. Provision for extra visits beyond these limits is generally allowed as medical necessity warrants.

6. PROs

Like physicians, PROs are important to the swing-bed program. Their decisions affect admissions to the swing-bed program as well as reimbursement. Although the PRO role in the swing-bed program is still evolving, initial information was obtained for this analysis. Several PROs were contacted in late 1986 regarding their policies and experiences with respect to the swing-bed program.

Although considerable variation exists in PRO swing-bed activities, the current scope of work for all PROs indicates that they must review a 50% random sample of all transfers from a PPS hospital to a swing bed. In addition, PROs must review a 15% random sample of discharges from PPS-exempt units or swing beds where the beneficiary was not transferred from a PPS hospital. PROs have the option to conduct preadmission review for potential swing-bed patients, but relatively few of the PROs contacted had such programs in place. The PROs contacted did not review readmissions from swing-bed care to acute care.

Although quantitative estimates of retroactive denials of swing-bed placement and reimbursement were not obtained for this analysis, information on the circumstances surrounding such denials was gathered. Some PRO representatives felt that considerable confusion existed at the hospital level regarding the definition of skilled level care and often resulted in retroactive denials. In these cases, about half were for patients who should have remained at the acute level, and the other half for patients who should have been discharged to a lower level of care. As a result of such denials, however, some hospitals have chosen to no longer provide swing-bed care.

In most cases where premature discharges from acute care to swing-bed care occurred, PRO representatives felt the main cause was lack of precise knowledge regarding the skilled care definition rather than deliberate efforts by hospitals to maximize reimbursement. The PROs contacted had little evidence on the extent of reimbursement maximization through the provision of possibly excessive ancillary services, although most felt it was not a major problems.

Although this information on PRO activity is limited, it highlights the important role PROs play at the interface between PPS and the swing-bed program. Possible policy options based on this preliminary work (considered further in Chapter VII) include the clearer specification of the skilled level of care for swing-bed hospitals, broader implementation of preadmission reviews, and reviews of readmissions from swing-bed care to acute care.

C. SUMMARY OF FINDINGS

The more important findings from the analyses that concentrated on cost and reimbursement issues are as follows:

1. The average 1984 incremental cost per day of swing-bed routine care was estimated to be \$33 to \$34, based on the two accounting methods that were judged to be the most realistic in terms of costs attributed to swing-bed care. The average revenue for swing-bed routine care patients was \$44 per day, resulting in an average gain of \$10 to \$11 per day. Adjusting for the Medicare acute care capital and medical education reimbursement reduction that results from swing-bed care, reduced the average gain to between \$8 and \$10 per day. For a majority of the hospitals, routine care revenues were estimated to exceed incremental costs.

2. The incremental cost of swing-bed care was also estimated to increase with swing-bed volume. Under one set of assumptions, at a revenue per day of $45 (approximately the 1984 average), the cost for each added day of swing-bed care exceeded the revenue received once swing-bed volume exceeded approximately 1,000 days, and the total cost of swing-bed care exceeded total revenues at a swing-bed volume of approximately 2,000 days. These findings suggest that the provision of swing-bed care under current routine care reimbursement policy is financially viable primarily at lower swing-bed volumes.

3. The cost to Medicare of routine swing-bed care was estimated to be approximately $16 less per day in 1984 than care in rural Medicare SNF facilities, assuming that swing-bed patients would otherwise be equally divided between rural hospital-based and freestanding SNFs. Actual Medicare savings may be greater because, in the absence of the swing-bed program, many swing-bed patients might have received care in urban SNFs or in newly constructed SNF units.

4. The six major Medicare swing-bed ancillary services were (from highest to lowest reimbursement per day) PT, drugs, medical supplies, laboratory services, respiratory therapy, and radiology. The average Medicare reimbursement per day for these services in 1984 totalled $32, compared to $103 for the same services for Medicare acute care patients.

5. The incremental cost estimates for the six ancillary services combined ranged from $19 to $21 per day in 1984, based on the two estimation methods analogous to those highlighted above for routine care. When compared to the average Medicare reimbursement of $32 per day, the financial gain to the hospitals was between $11 and $13 per day. Estimated incremental ancillary costs per day did not vary with swing-bed volume.

6. Overall 1985 Medicare and Medicaid swing-bed expenditures (excluding administrative costs, which were minimal) were estimated to be $15.9 million for Medicare routine care and $2.1 million for Medicaid routine care. Ancillary services added $10.3 million to Medicare expenditures, resulting in a Medicare total of $26.1 million. Using the estimated $16 per day Medicare saving as an approximation, without the swing-bed program 1985 Medicare SNF expenditures for these patients would have been about $5 million greater. The Medicare routine expenditures represented approximately 2.6% of total Medicare SNF expenditures. Medicaid swing-bed expenditures represented far less than 1% of total Medicaid nursing home expenditures.

7. Physicians were found to visit swing-bed patients more often than nursing home patients but less often than acute care patients. The number of physician visits to swing-bed patients also typically exceeded the maximum number reimbursed by Medicare. Considerable variation in visit limits was found among Medicare Part B carriers. In view of the fairly intense case mix of many swing-bed patients, the appropriateness of swing-bed visit limits closer to those for acute rather than nursing home patients is considered in Chapter VII.

8. The role of the PROs was also examined in this study component and found to be quite important in the swing-bed process. The need for a better understanding by hospitals of the definition of skilled care was cited by many PROs. In addition, the possibility of greater PRO involvement in preadmission review for swing-bed care and reviews of readmissions to acute care from swing-bed care was highlighted and is discussed further in Chapter VII.

CHAPTER VI NOTES

1 Representativeness analyses were conducted comparing the sample swing-bed hospitals to all 1984 swing-bed hospitals, using available AHA data on characteristics such as size, ownership, and occupancy rates. Similar comparative analyses were carried out for the sample swing-bed and comparison hospitals as of 1982.

2 The greater average number of swing-bed days provided by this group of hospitals compared to all swing-bed hospitals (described in Chapter III) reflects the fact that the cost report sample of hospitals was comprised of relatively early participants in the program. Even so, 62 (90%) of the 69 hospitals in the sample provided had fewer than 2,500 swing-bed days. The average number of swing-bed days provided by these hospitals in 1984 was 894.

3 Surveys of swing-bed hospital administrators and the case studies provided considerable information on this topic. These sources supported the assumption that the per day nonlabor costs in the dietary, laundry and linen, and housekeeping cost centers were usually the same for swing-bed and acute care patients. Other nonlabor costs were estimated by most respondents to be considerably lower for swing-bed than for acute care patients. Labor costs, particularly for nursing staff, were estimated to be quite low for small amounts of swing-bed care. In view of the need for 24-hour nursing coverage by acute care hospitals, nursing staff coverage tended to be more than adequate at low acute census levels. Small numbers of swing-bed patients could, therefore, usually be accommodated without increasing nursing staff costs. As swing-bed volume increased to moderate levels, the major nursing staff increase typically was in the aide category, which tended not to increase costs greatly.

Although respondents could not estimate with precision the likely labor and nonlabor increases required for high volumes of swing-bed care, due to lack of experience with such volumes, most indicated that such added resources would be increasingly costly as "excess capacity" (in both labor and nonlabor) was used up. Also, regression estimates suggested that swing-bed costs per day were likely to increase as volume increased. Several ways were considered and/or tested to capture this phenomenon of marginal cost, especially labor cost, increasing as a function of the proportion of inpatient care provided to swing-bed patients. The square of the days-to-days ratio for the indicated cost centers was selected since it seemed to accurately reflect how costs were being incurred on conceptual as well as empirical grounds. The overall conclusion, therefore, based on these varied sources of information, was that a reasonable apportionment method was one, such as method 3, which included labor costs and apportioned increasing costs per day to swing-bed care as swing-bed volume increased.

4 As a comparison, Finkler (1987) estimated swing-bed incremental operating costs to range from $21 to $32 per day, based primarily on evidence from North Dakota hospitals. In addition, although the regression results varied by functional form, most regressions for the swing-bed hospital sample yielded somewhat lower estimates for swing-bed costs than did the accounting methods. Regressions that included both swing-bed and comparison hospitals, however, yielded estimates similar to those resulting from the accounting methods.

5 Since the incremental cost estimates pertain to both levels of care combined, the revenue estimates were developed as weighted averages incorporated the rates for both levels.

6 Since these estimates included revenues for both the skilled and intermediate levels, the estimated rates are lower than the rates paid by Medicare for skilled care. The average 1984 Medicare rate per day reported by the sample hospitals was $50.34, which was not much higher than the combined rate because most swing-bed days in the sample were skilled level days. The wide variation among hospitals in revenue per day reflects the wide variation in average Medicaid rates across States. Possible alterations to achieve greater uniformity for Medicare in swing-bed payment rates across States are discussed in Chapter VII.

7 Such gains did not have a major impact on most hospitals' financial status, however. Even with the inclusion of swing-bed ancillary revenues (discussed later in this chapter), swing-bed revenues typically represented less than 5% of the average sample hospital's total 1984 patient revenues.

8 The correlation coefficients between the number of swing-bed days and the estimated incremental cost per day were -.396, -.378, and .529, respectively, for methods 1-3, all significant at the .001 level.

9 Although only about 13% of Medicare SNF units are hospital-based, it is likely that some swing-bed hospitals would have developed distinct part units in the absence of the swing-bed program. This would have increased the likelihood that swing-bed patients would have received care in hospital-based units without the swing-bed program.

10 After 1984, the Medicare saving for swing-bed patients who would otherwise has been in hospital-based facilities is likely to have been lower (before adjusting for inflation) than in 1984 because the hospital-based limits were lowered. The revised limits were set at the freestanding SNF limit plus 50% of the difference between the freestanding limit and 112% of the mean hospital-based routine service costs. The new hospital-based limit also included an add-on for administrative and general costs. Between 1982 and 1984, the limits (as finalized in 1986) were set at 112% of the hospital-based mean. Prior to wage index and other adjustments, these changes lowered the rural limit for the period beginning July 1, 1984 by about $15 per patient day, and 47% of rural hospital-based SNFs were estimated to have exceeded the new limits, compared to 20% exceeding the earlier limits (see Federal Register, Vol. 51, No. 62, April 1, 1986, pp. 11237 and 11241). Thus, the average Medicare reimbursement per day to rural hospital-based SNFs may have been slightly lower for the years after 1984 than would be projected by the estimates presented in Table VI.4.

11 Of course many factors are involved in determining nursing home expansion or new construction, such as State CON laws and the overall demand for long-term care. The presence or absence of a swing-bed program can be an important factor in this situation, but not necessarily the sole determinant of whether or not expansion or new construction is undertaken.

[12] Swing-bed ancillary information for other payers was generally not reported. Some Medicaid information was available, but for too few cases to be reliable. However, since Medicaid is the primary payer for ancillary services to swing-bed patients, the Medicare data were assumed to cover most swing-bed ancillary services. (For example, private pay and Medicaid swing-bed patients can receive Medicare-covered ancillary services, which the hospital can bill under Part B. However, the part B services so provided in 1984 were minimal in the study sample cost reports.)

[13] These amounts represent what would have been reimbursed for Medicare acute patients under the pre-PPS cost reimbursement methodology.

[14] The number of physician visits to swing-bed patients was reported as 2.8 per week in Chapter V, Table V.4. However, this average included non-Medicare as well as Medicare patients, and the non-Medicare patients are likely to require fewer visits in view of their less intense care needs.

CHAPTER VII

CONSIDERATIONS FOR POLICYMAKING

A. INTRODUCTION

This study was originally intended to serve two broad purposes. First, it was designed to assess the national swing-bed program in rural areas in order to describe the program and the manner in which it operates, as well as to objectively determine its strengths and weaknesses. In this regard, the study was targeted at providing information relevant to determining whether the rural swing-bed program should be continued or discontinued. Section B summarizes the results, issues, and recommendations associated with this objective.

The second objective was targeted at potential refinements and policy options associated with changing the swing-bed approach. Attainment of this objective also depended on using the information collected to describe the national program. In addition, it required determining how the swing-bed program should evolve in accord with current issues, problems, and developments in the fields of hospital care, long-term care, reimbursement policies, and quality assurance policies.

Section C addresses these policy issues, drawing on the empirical results presented earlier and the operational knowledge of the swing-bed program gained in the course of this study, to define possible options and make proposals for improving the program.

B. SYNTHESIS OF FINDINGS AND ISSUES RELATED TO THE CURRENT PROGRAM

1. Hospital Participation in the National Swing-Bed Program

About 40% of the eligible hospitals in rural areas are now certified to provide swing-bed care. The total number of certified swing-bed hospitals represents approximately 15% of all Medicare-certified, short stay general hospitals in the United States. While the national swing-bed program began slowly in the earlier 1980s, its growth has been rapid over the past 3 years, resulting in 899 hospitals certified for swing-bed care by July 1986. Swing-bed hospitals are predominantly concentrated in the larger rural land areas of the midwestern States, although western, southern, and southeastern States also have relatively high participation rates in the national swing-bed program. Nine of the 11 States with no participating hospitals in July 1986 were located in or near the northeastern section of the country, largely because fewer rural communities and land areas are located in this region. In general, swing-bed hospitals and the communities in which they are located tend to be characterized by lower acute care occupancy rates, a lower ratio of physicians to elderly persons, a larger elderly population, and fewer Medicare SNF beds per elderly, than rural hospitals and communities not participating in the swing-bed program.

2. Utilization of Swing Beds

In 1986, 97% or 872 of the 899 certified swing-bed hospitals were providing long-term care in swing beds. Based on 1985 utilization data (the latest available), the participating hospitals averaged 50 admissions and 964 days per year of long-term care in swing beds, with an average length of stay of about 20 days. Approximately three-fourths of all swing-bed admissions were from acute care, with about two-thirds of these admitted from the acute care portion of the swing-bed hospital it self. (For nursing home patients, only about half were admitted from acute care.)

Medicare reimbursed for 49% of swing-bed days in 1985. Medicare payments are made only in those instances where the services furnished to Medicare beneficiaries meet the same skilled nursing or rehabilitation care criteria required to reimburse SNFs. The average Medicare patient's length of stay was 14 days. Medicaid, which covered swing-bed care in 22 of the 39 States with participating hospitals, covered only 8% of swing-bed care in 1985, with an average length of stay of 48 days. Medicaid payments may be for either skilled nursing or intermediate care services, depending on the provision of the State benefit structure. Other payers, chiefly private pay, covered the remaining 43% of days. Such patients had an average stay of 30 days. The majority of swing-bed days were SNF days.

3. General Purposes Served by Swing Beds

Although a few hospitals provided more than 2,500 days of swing-bed care in 1985, over 90% used swing beds to provide care to relatively short stay long-term care patients. For the most part, swing beds are used to provide subacute long-term care to patients who are more difficult to place in community nursing homes owing to their intense needs for medical and highly skilled nursing care. Such patients are either discharged home or to community nursing homes after a relatively brief stay in a swing-bed hospital. In most instances, swing beds serve as holding beds until patients are sufficiently rehabilitated to return home or until a nursing home bed becomes available in the community. At times, however, swing beds are used to fill other gaps in the long-term care delivery system in rural communities, especially when community nursing home beds are fully occupied. In such situations, swing-bed hospitals provide more traditional long-term care, such as that commonly found in nursing homes. Even in these circumstances, swing-bed stays appear to be considerably shorter than nursing home stays.

4. Community Retention and Access

Earlier data from the Utah swing-bed demonstration program in the 1970s indicated that a per capita increase in the number of Medicare SNF patients receiving care in their home community occurred as a result of the swing-bed approach. In terms of the present program, over 75% of nurses and over 90% of physicians in swing-bed communities estimate that the swing-bed program has enhanced the retention of long-term care patients in their home communities. One indication of this is that the average distance from home was 21 miles for swing-bed patients compared to 50 miles for nursing home patients.

exploration of this issue found no evidence of statistically significant decreases in nursing home occupancy rates. In fact, in one of the States with the largest number of swing-bed hospitals, nursing home occupancy rates actually increased in swing-bed communities between 1982 and 1985.

5. Cost of Swing-Bed Care to Hospitals

Under the assumption that hospital beds exist primarily for the provision of acute care, their use in the provision of long-term care is designed to take advantage of declining acute care occupancy rates and surplus hospital capacity. As such, based on special analyses of hospital cost reports, the cost of swing-bed care to long term care patients was calculated as an incremental cost, i.e., the additional cost of providing long-term care given that the beds and associated resources already exist for the provision of acute care. The incremental costs for routine and for ancillary long-term care provided in swing beds in 1984 were estimated as $33 to $34 and $19 to $21 per day, respectively. These costs were below the average per diem estimated swing-bed revenues of $44 for routine care and $32 for ancillary services.

6. Cost of Swing-Bed Care to Medicare and Medicaid

It appears that a portion of Medicare use of hospital swing beds has been caused by PPS. The more specific issue of whether, under PPS, rural swing-bed hospitals have "gamed the system" by transferring patients to the SNF level of care to gain additional revenue cannot be definitively answered at this time. Available evidence does not point to this as a widespread practice. However, this issue is the subject of the study of the impact of PPS. The swing-bed project findings will be incoporated into the series of PPS impact reports. There is consensus, however, that nursing home case mix did not change substantially in swing-bed communities before and after the implementation of the swing-bed program. Site visits have tended to confirm that many of the SNF patients receiving care in hospital swing beds would have remained for longer periods as acute care patients prior to PPS and would have been discharged to urban SNFs at the present time if swing beds were not available. Based on 1984 data and the assumption that swing-bed patients would have been placed in equal numbers in freestanding and hospital-based rural SNFs in the absence of the swing-bed program, the use of swing beds to provide Medicare SNF care resulted in a per day saving to Medicare of approximately $16. The saving was greater to the extent that swing-bed patients would have otherwise gone to urban SNFs or to newly constructed or expanded facilities.

The overall routine and ancillary cost to the Medicare program of providing SNF care in hospital swing beds in 1985 was $26 million. If the SNF care had been rendered at places other than in the rural hospitals' swing-beds (i.e., freestanding SNF's or in a distinct part SNF of a hospital), routine care would have cost an average of $16 more per day. The total Medicare cost to provide such care in rural communities in 1985 would have been $5 million more. Since Medicaid covered a substantially lower portion of swing-bed care, its 1985 annual cost for long-term care provided to swing-bed patients is estimated to be only slightly over $2 million.

7. The Volume Threshold Area When Swing Beds Should be Considered as Nursing Home Beds

The incremental cost of routine long-term care provided in swing beds was found to increase as a function of total swing-bed patient days. The point at which it is no longer cost-effective to retain hospital beds as swing beds (i.e., where it would appear to be more reasonable to convert them to permanent nursing home beds) ranges between 1,500 and 3,000 days of swing-bed care. (In this study, swing-bed routine cost for the average swing-bed hospital began to exceed swing-bed revenues at approximately 2,000 days of swing-bed care per year.) While hospital circumstances and State-specific reimbursement rates may increase the break-even point even beyond 3,000 days, some such threshold would appear to exist for any hospital. If a hospital's swing-bed experience indicates a strong and stable demand for long-term care, such a demand clearly indicates a hospital has moved into the nursing home business. Its cost structure, staffing needs, and care orientation associated with swing beds are basically the same as a nursing home's when it reaches this threshold.

8. Types of Long-Term Care Patients Cared for in Swing Beds

Swing-bed patients have substantially shorter stays and greater rehabilitation potential than nursing home patients. They are less frequently characterized by typical long-term care problems, such as incontinence, mental status or cognitive functioning problems, dependence in ADLs, and related psychological or social problems. However, swing-bed patients tend to have more subacute problems, such as recovery from surgery, hip fracture within the past 6 weeks, shortness of breath, and the need for intravenous catheters. In general, the long-term care needs served by swing-bed hospitals are substantially different from those served by community nursing homes. Swing-bed hospitals exhibit a tendency to treat subacute problems which need more intense medical and skilled care, while nursing homes care for patients with problems more typically seen in institutional long-term care settings. The average swing-bed patient appears to be at least 20% more costly to care for per day than the average nursing home patient. This case mix difference appears to be one of the reasons why swing-bed care is not regarded as a substitute for (or in competition with) nursing home care in most locations.

Relative to home health patients, however, swing-bed patients are more dependent in ADLs such as bathing, dressing, using the telephone, and handling finances. In addition, swing-bed patients are characterized by a somewhat more intense set of medical and skilled nursing needs than home health patients in areas such as hip fracture, stroke, and conditions requiring intravenous catheters. Swing-bed patients are also more dependent than home health patients in areas such as incontinence and mental status problems. The differences between swing-bed patients and home health patients in terms of subacute needs, however, are not as substantial as the differences between swing-bed patients and nursing home patients. The greater dependency in physical and cognitive functioning on the part of swing-bed patients renders their need for continuous skilled nursing and medical care greater than the intermittent needs for such care more typically associated with home health patients.

The results therefore suggest a continuum of dependency and subacute problem intensity in the case mix that characterizes swing-bed patients, home health patients, and nursing home patients. Overall, nursing home patients tend to be more dependent in traditional measures of functioning than swing-bed patients, which in turn are more dependent in functioning than home health patients. Subacute care needs, however, appear to be strongest in swing-bed patients, although when a certain level of rehabilitation has been reached, such patients can and should be discharged to home health care. In home health settings, certain types of medical services are more frequently provided on an intermittent basis to patients with subacute needs than is the case with more traditional nursing homes. Nonetheless, home health care also relies on a reasonable degree of independence in physical and mental functioning. Therefore, especially in rural communities where distances home health nurses have to travel can be substantial, swing beds serve the purpose of providing continuous medical and skilled nursing care for a relatively short institutional stay to subacute patients. Often, such patients are subsequently discharged home with intermittent home health care to continue the rehabilitation process.

9. Quality of Long-Term Care in Swing Beds

Taking into consideration or adjusting for the case mix differences just noted, swing-bed patients were discharged home sooner and more frequently than nursing home patients. (The frequency of written discharge plans was found to be greater for swing-bed than for nursing home patients, based on samples of patients discharged from each setting.) This seems to reflect the stronger rehabilitation philosophy that accompanies the provision of acute and subacute care. Based on the criteria used in this study, subacute nursing services were found to be provided moderately better in swing-bed hospitals relative to nursing homes. However, more traditional long-term care nursing services were provided better in nursing homes. These differences tended to persist after adjusting for case mix differences. Physician visits, x-rays, laboratory tests, and intravenous medications all occurred substantially more frequently for swing-bed patients than for nursing home patients, after adjusting for case mix differences. In all, it appears that long-term care to subacute patients is provided at least as well and very likely better in swing-bed hospitals than in community nursing homes in rural areas. However, it also appears that the care typically required for longer-stay, chronically ill or disabled long-term care patients is provided better in community nursing homes.

10. Hospital and Program Administration

The reasons most frequently cited by hospitals for joining the program were to meet a community need for long-term care and to provide better continuity of care. Increased revenues and more efficient use of staff resources were also frequently cited reasons for joining the program.

Generally, the problems and difficulties associated with implementing the swing-bed approach at the hospital level declined in importance over time as hospitals gained experience with the program. Staff resistance, particularly from the nursing staff who were concerned that the hospital would become primarily a nursing home, was often cited as a major start-up problem. Dissatisfaction with reimbursement was viewed as a significant start-up and ongoing problem by many swing-bed hospitals. Despite the fact that incremental cost appears to be covered by the current reimbursement structure, most hospital administrators felt reimbursement was inadequate. Other administrative entities such as HCFA regional offices, State certification agencies, State planning agencies, Medicare Part A intermediaries and Part B carriers, Medicaid fiscal agents, PROs, generally required few resources to incorporate the swing-bed program into their operations. Most agencies shifted personnel to the swing-bed program, and usually no new personnel were added. Few agencies reported any start-up or ongoing problems associated with the administration of the program. One of the most frequently mentioned problems by agencies was misunderstanding of regulations and program requirements by hospitals.

11. Demonstration Projects

No demonstration projects involving the testing of alternative arrangements for implementing the swing-bed concept have been carried out. There has been a great deal of interest in developing a swing-bed demonstration project in urban areas. Because of failure to reach agreement on key issues, further discussions were terminated. Based on this evaluation, HCFA plans to investigate the potential for developing new approaches toward the payment of acute and postacute services in urban areas.

C. POLICY ISSUES AND RECOMMENDATIONS

This section addresses the questions specifically posed by the Congress in mandating this evaluation and discusses issues identified in the course of conducting the evaluation. HCFA's recommendations concerning the issues identified are given.

For convenience the key recommendations are listed below. These are followed by a discussion of the rationale underlying each of the recommendations.

- The rural swing-bed program should be continued.
- At this time, eligibility to elect the swing-bed option should not be extended to urban hospitals. HCFA plans to explore alternative models for testing the payment of acute and postacute care in urban hospitals.

- The current method for determining the rate of payment for routine long-term care in a swing-bed hospital should be retained.
- Ancillary services to patients receiving long-term care in a swing-bed hospital should continue to be reimbursed at cost.
- HCFA will continue to monitor the cost behavior of hospitals and nursing homes and the use of ancillary services in swing-bed hospitals. Alternative payment arrangements will be explored.
- HCFA will review current visit screens for physician services by place of service with the intent of developing consistent criteria specific to physician visits to patients receiving long-term care in swing-bed hospitals.
- Swing-bed hospitals furnishing more than 1,000 days of long-term care to patients with stays of 60 or more days should be required to meet all conditions of participation for SNFs. This may entail the creation of a distinct-part SNF.
- HCFA will undertake a review of the desirability of conducting regular surveys of the long-term care services furnished in swing-bed hospitals.
- HCFA will draw on the growing experience of PROs to determine the feasibility of developing guidelines governing the transition of patients from acute to postacute care in swing-bed hospitals.

From the results of this study, consideration could be given to extending the swing-bed option to larger rural hospitals; for example, to those with fewer than 100 beds.

1. Continuation of the Rural Swing-Bed Program

Despite certain weaknesses and disadvantages of the rural swing-bed program that are usually restricted to individual communities or providers, the weight of the evidence gathered as part of the evaluation study supports a continuation of the national rural swing-bed program. On balance, its most important attribute is that it increased access to cost-effective long-term care in many rural communities throughout the country. It has been accepted by residents of rural areas and by health care professionals. Relatively few administrative difficulties have been encountered in its implementation. To eliminate the opportunity for small rural hospitals to provide long-term care in swing beds would not only be detrimental to many rural residents, but it might possibly increase Medicare costs. It is doubtful that more than a small portion of Medicare SNF days of care provided in hospital swing beds would be eliminated by virtue of abolishing swing beds. Because of the incentives embedded in PPS, these relatively short-stay SNF admissions of Medicare patients to swing beds would probably translate into somewhat longer SNF stays in existing or newly constructed/converted SNF beds in rural and in more distant urban communities that would be more costly to Medicare.

2. Eligibility to Elect the Swing-Bed Option

a. Bed Size Limits: At the present time, whether the hospital meets the current bed size limit for eligibility to participate in the swing-bed program is largely determined by applying the prior year's acute care occupancy rate to the total number of licensed beds that are not special care unit or newborn beds. While this is somewhat generous in the eyes of regulators in some regions, the marginal increase in the number of swing-bed hospitals resulting from this approach rather than more stringent ones, appears to be inconsequential. It does not appear appropriate to mandate a uniform method of determining eligibility at the region or State level, however. The individual circumstances of each region or State, in terms of the supply of and demand for subacute long-term care beds, can more readily be taken into consideration with out a strictly enforced guideline for determining effective beds.

On the basis of the above size criterion, 2,236 rural hospitals are currently eligible to participate in the swing-bed program. There are an additional 1,023 hospitals in areas defined as rural by the Census Bureau. Many of these hospitals are located in rural communities where swing beds are not available and an unmet need for long-term care services appears to exist. Consideration could be given to extending the swing-bed option to rural hospitals with fewer than 100 beds. If the bed size eligibility criterion were to be increased to include hospitals with fewer than 100 beds, it would increase the pool of hospitals eligible to elect the swing-bed option by 640 hospitals and increase the availability of long-term care services in rural areas.

b. Urban Hospital Eligibility: At the present time, urban hospitals are ineligible to elect the swing-bed option, regardless of size. The swing-bed option has embedded in it the opportunity to "game" the system by discharging acute care patients to the skilled nursing level of care to gain additional revenue beyond that provided by the DRG payment rate. However, the findings of the evaluation suggest that the differences between urban and rural communities may lead to differential use of the opportunity to "game" the system. In urban areas, distances between patients' residences and providers are usually substantially shorter and consumers usually have a larger number of providers to choose from. Further, urban hospitals generally have a greater capacity to maximize revenues through more sophisticated means. These considerations suggest that a conservative posture to extending the swing-bed option to urban hospitals is warranted. For these reasons, HCFA recommends that the swing-bed option not be extended to urban hospitals at this time. HCFA plans to develop demonstration projects which test alternative methods of paying for acute and postacute services, including combining both levels of care under one payment arrangement. These demonstrations would permit an assessment of the utility and cost effectiveness of expanding the swing-bed approach to urban hospitals.

Many urban hospitals, under the impetus of PPS, are converting part of their facilities to distinct-part SNFs to create "transitional" beds; so-called because they are used to facilitate the patient's transition between acute care and SNF and/or home care. From the viewpoint of Medicare's program costs, the conversion to distinct-part SNFs may be more costly than providing the swing-bed option, assuming that conditions for controlling "gaming" can be developed.

3. Reimbursement Arrangements

a. Routine Care: At the present time, Medicare per diem reimbursement for swing-bed routine care is determined separately for each State as the average statewide Medicaid reimbursement rate (by level of care) for the preceding year. On average, this rate covers the incremental cost of providing routine long-term care in swing beds. The current method of paying for routine care should be retained. HCFA will continue to monitor the relationship of payment rates based on the current methodology to changes in the relative behavior of nursing home and hospital incremental costs to determine whether, in the interest of equity, modifications of the current methodology are indicated. Concurrently, HCFA will continue to explore alternative payment arrangements through demonstration projects or through experience gained from nursing home reimbursement systems used in several States. These may include payments based on case mix, on total stay rather than on a per diem basis, or combining the cost of acute and postacute care.

b. Ancillary Services: At present, ancillary services to swing-bed patients are cost reimbursed by Medicare. As with reimbursement for routine care, the present reimbursement for ancillary care was found to cover the incremental cost of ancillary services provided to swing-bed patients. A potential problem that has surfaced, albeit in only a few settings, is the abuse of the present reimbursement methodology through the overprovision of ancillary services. Since the current methodology is akin to reimbursement for all Medicare ancillary hospital services prior to PPS, it is a direct function of the volume of ancillary services. Consequently, discharging patients as rapidly as possible from acute care to swing-bed care, and providing the ancillary services largely after discharge from acute care, results in maximizing ancillary reimbursement. As mentioned, this ancillary service "postacute loading" does not appear to be taking place in swing-bed hospitals, with the exception of a few individual facilities. Since abuse appears minimal at this time, HCFA recommends retention of cost reimbursement for ancillary services. However, HCFA will continue to monitor ancillary service utilization in swing-bed facilities, and, concurrently, explore alternative arrangements of paying for ancillary services. These may include setting a per day or per year limit on payments for ancillary services to swing-bed patients. The feasibility of developing and testing alternative arrangements for combining routine and ancillary services in one payment scheme is an option that could be explored in demonstration projects.

c. Physician Services: The evaluation found that physicians visit their swing-bed patients with greater frequency than their nursing home patients. However, less than half the physician visits to long-term care patients in hospital swing beds appear to be covered by either third party payers or the patient. One reason for this is the wide variation in the number of physician visits to postacute swing-bed patients allowed by Medicare carriers. For the most part, the number of visits allowed are based on screens promulgated by Medicare for physician visits in nursing homes (generally, intermediate care level patients), SNFs, and hospitals. Generally, the swing-bed visit limits are more generous than the physician visit limits for Medicare patients in certified SNFs. This appears reasonable in view of the greater intensity of care required by postacute swing-bed patients. Swing-bed visit limits closer to those for acute care patients appear warranted. However, the wide variation in the limits noted in the evaluation is inappropriate. HCFA will undertake a review of the situation with the intent of adding the postacute swing-bed patient to the categories of patients for which a screen for physician visits is established.

4. Quality of Care and Standards

a. Volume Thresholds: The evaluation showed that swing-bed hospitals and nursing homes in rural areas have evolved into serving two distinct but partly overlapping long-term care markets. Generally following the acute hospitalization phase, the swing-bed hospitals tend to treat what might be characterized as the "subacute" patient. These patients require more intense and skilled nursing care services for further recovery and rehabilitation from illness and are discharged, on average, within 20 days. The tendency for swing-bed hospitals to avoid traditional nursing home care was found to be rather pronounced. At the subacute phase the quality of services furnished by the hospital was found to be better overall, than those furnished by the nursing homes. On the other hand, nursing homes provide higher quality traditional long-term care.

This difference between the two types of facilities in their modal case mix and ability to care appropriately for the different types of patients was embedded in the regulations which implemented the swing-bed legislation. The conditions of participation applicable to swing-bed hospitals were predicated on the assumption "...that patients in swing-bed hospitals are less likely to become long-term residents." Accordingly, the regulations attempted to avoid imposing significant burdens on rural hospitals by requiring adherence only to those SNF standards that are necessary and appropriate to SNF patient care and do not duplicate existing hospital requirements, do not require extensive structural modifications, and are unnecessary in what is primarily a general routine inpatient hospital setting. In short, the regulations did not contemplate the swing-bed hospital as providing a significant amount of the traditional type of long-term nursing home care.

The evaluation found that a few swing-bed hospitals provided a significant amount of care to persons who remained in the facility for 60 or more days. The evaluators found that these patients' needs are more akin to the "traditional" long-term nursing home patient which the swing-bed hospitals were found to be less capable of meeting than nursing homes. The evaluators proposed the establishment of volume thresholds for long-term care at which a swing-bed hospital is providing a significant amount of such care and special measures to assure quality of care need to be taken. HCFA agrees with this assessment and recommends that a swing-bed hospital which provides more than 1,000 days of long-term care (at either the skilled or intermediate levels of nursing care) in 1 year to patients with stays of 60 or more days should be required to meet all SNF conditions of participation. To meet all conditions of participation as an SNF, the hospital may elect to create a distinct-part facility. If this option were chosen, the hospital's reimbursement for SNF services in the distinct-part facility would be based on incurred costs. However, despite the increased costs involved in meeting all SNF conditions of participation, some hospitals may prefer to retain the flexibility to use all of their beds for acute care although, as a swing-bed facility, they would still be paid on the basis of the previous year's Medicaid rates for "subacute" services. The hospital should be allowed to decide the course it elects to take on this question.

A further threshold might be established at 2,000 days of long-term care to all patients. However, if the swing-bed option were extended to larger hospitals these hospitals may be more likely to furnish 2,000 or more days of appropriate subacute care services to a larger number of patients. The latter option, which is not being recommended at this time, can be reassessed in light of further experiences, even if the bed size eligibility criterion remains unchanged.

b. Periodic Review: The evaluators found greater State to State variation in certifying swing-bed hospitals as long-term care providers than in certifying nursing homes. The evaluators recommended that principles and guidelines should be established for conducting surveys in swing-bed hospitals that provide a significant amount of traditional nursing home care. HCFA will undertake a review of this issue and, in conjunction with the earlier recommendation on the establishment of volume thresholds and the requirement that PROs review transfers between acute and long-term care in swing-bed hospitals (see below), institute arrangements that will assure that the needs of long-term care patients are appropriately met in swing-bed hospitals.

c. PROs: HCFA's contracts with PROs include a review of swing-bed hospitals; particularly, transfers between acute and postacute levels of care. This review provides a mechanism for assuring that the transfer is medically appropriate. In addition, it provides a control on any "gaming" that might take place in making transfers to maximize total revenues derived from the DRG payments for the acute care phase and the payments for routine and ancillary services rendered during the postacute phase. At this time, the indicators for the appropriateness of such transfers are not always clear. As such, clinical judgements are the key basis for the determination of appropriateness. It is expected that more experience will increase the clinical base for developing guidelines governing the transition of patients from acute to subacute care in swing-bed hospitals. The second component of this evaluation, which examines the impact of PPS on the swing-bed program, will address this issue further through analysis of PRO acute care admission, readmission, and transfer denial rates. Also, comparisons will be made of acute care readmissions from swing-beds relative to nursing home or SNF beds.

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